A novel intervention for self-criticism in a primary care psychological therapies service Feasibility study

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Empirical Research Project
&
Systematic Literature Review

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Contents

Acknowledgements……page 1

Empirical Research Project……page 2
A novel intervention for self-criticism in a primary care psychological therapies service: Feasibility study

Systematic Literature Review……page 128
Examining the relationship between self-criticism and self-esteem: A systematic review of the literature

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Empirical Research Project

A novel intervention for self-criticism in a primary care psychological therapies service: Feasibility study

Supervised by Dr Katharine Rimes and Dr Janet Wingrove

Abstract

Introduction: Self-criticism is a transdiagnostic process observed across common mental health disorders, which are treated within primary mental healthcare services, Increasing Access to Psychological Therapies (IAPT) in England. This study evaluated the acceptability, feasibility, preliminary indications of effectiveness, and potential mechanisms of change of a Compassion Focused Therapy (CFT) based intervention for self-criticism in IAPT patients. The intervention was adapted from one which had shown promising results with self-critical university students (Rose, McIntyre & Rimes, 2018).

Method: Six-sessions of weekly individual sessions and two-month follow-up were provided to 20 IAPT patients within a double-baseline uncontrolled study. Acceptability and feasibility were evaluated using recruitment and retention information together with participant and therapist feedback. Standardised questionnaires were collected at screening, weekly sessions, and follow-up to measure different facets of self-criticism (primary outcomes); depression, anxiety, functional impairment, and self-esteem (secondary outcomes); and self-compassion, self-reassurance, and beliefs about the unacceptability of negative emotions (process measures).

Results: Recruitment / retention rates and feedback suggested that the intervention was acceptable and feasible to deliver in an IAPT service. Compared to pre-treatment, significant improvements with medium to large effect sizes were found on all measures at post-treatment and at follow-up. Furthermore, the magnitude of change in self-criticism and depression between pre- and post-treatment was significantly larger than between screening and pre-treatment. Reductions in self-criticism were significantly correlated with improvements in self-compassion and beliefs about the unacceptability of negative emotions.

Conclusion: This appears to be a promising transdiagnostic intervention for self-criticism in IAPT patients that warrants further investigation in a randomised controlled clinical trial.

Table of contents

1. Introduction 7

1.1. Self-criticism 7

1.1.1. Self-criticism and mental health 7

1.2. Constructs closely associated with self-criticism 8

1.2.1. Self-esteem 8

1.2.2. Rumination 9

1.2.3. Self-Compassion 9

1.3. Treatment of self-criticism 11

1.4. Compassion Focused Therapy 11

1.5. Primary Mental Healthcare 13

1.6. The current study 14

2. Method 16

2.1. Approvals 16

2.2. Design 16

2.3. Participants 16

2.4. Measures 17

2.4.1. Primary outcome measures 17

2.4.2. Secondary outcome measures 18

2.4.3. Process measures 19

2.4.4. Other measures 20

2.5. Procedure 20

2.6. Intervention content 22

2.7. Data preparation and analyses 22

2.7.1. Hypotheses 1 and 2: Feasibility and acceptability 22

2.7.2. Hypotheses 3 and 4: Changes in self-criticism and other outcomes after treatment 23

3. Results 26

3.1. Participant characteristics 26

3.1.1. Socioeconomic characteristics 26

3.1.2. Mental health characteristics 27

3.2. Feasibility 29

3.2.1. Recruitment 29

3.2.2. Retention 29

3.2.3. Eligibility criteria 31

3.3. Acceptability 31

3.3.1. Acceptability of the assessment methods 31

3.3.2. Treatment access 32

3.3.3. Acceptability of the intervention overall 32

3.3.4. Acceptability of the intervention's structure 35

3.3.5. Acceptability of specific techniques within the intervention 35

3.3.6. Acceptability of specific components of the intervention 35

3.4. Feedback from therapists *39*

3.5. Changes in self-criticism and other outcomes *40*

3.5.1. Therapist effects 40

3.5.2. Effects of variations in duration of baseline, treatment and follow-up 40

3.6. Changes in primary and secondary outcomes and process measures *40*

3.6.1. Primary outcome measures 40

3.6.2. Secondary outcomes 43

3.6.3. Process measures 45

3.6.4. Associations between measures 46

3.7. Need for further treatment *46*

4. Discussion **48**

4.1. Overview *48*

4.2. Feasibility findings and recommendations *48*

4.2.1. Feasibility of providing this intervention 48

4.2.2. Feasibility of conducting another research study 49

4.3. Acceptability findings and recommendations *49*

4.3.1. Acceptability of the assessment and intervention overall 49

4.3.2. Acceptability of specific techniques within the intervention 51

4.4. Reductions in self-criticism and other outcomes *51*

4.4.1. Reductions in self-criticism 51

4.4.2. Reductions in secondary outcomes 52

4.4.3. Reductions in process measures 53

4.5. Implications for the treatment of self-criticism *54*

4.6. Strengths and limitations *56*

4.7. Future research *58*

4.8. Conclusions *59*

5. References **60**

6. Appendices **73**

List of figures and tables

Figure 1: Inclusion and exclusion criteria……..17
Figure 2: Estimate of effect size, Cohen's d……..24
Figure 3: Flowchart of recruitment and retention numbers……..30
Figure 4: Percentage of the weekly booklet read by participants on average…… 38
Figure 5: Average time spent on homework each week……..38
Figure 6: Changes over time in the primary outcome measures (mean total scores) ……41
Figure 7: Changes over time in the secondary outcome measures (mean total scores)…… 43
Figure 8: Changes over time in the process measures (mean total scores)……..46

Table 1: Sociodemographic details of the study sample……..26

Table 2: Psychiatric diagnoses within the sample……27

Table 3: Diagnostic comorbidities in the sample……..28

Table 4: Past experiences of therapy in the sample……29

Table 5: Post-treatment participant ratings about the intervention……34

Table 6: Ratings of the usefulness of specific intervention techniques, provided at the end of treatment and the 2-month follow-up……36

Table 7: Ratings of the frequency of use of specific intervention techniques since the end of treatment, provided at the 2-month follow-up. ……37

Table 8: Primary outcome measures: Descriptive statistics and results of ANOVAs and planned comparisons……42

Table 9: Secondary outcome measures: Descriptive statistics and results of ANOVAs and planned comparisons……44

Table 10: Process measures: Descriptive statistics and results of ANOVAs and planned comparisons……45

Table 11: Pearson and Spearman correlations between post-treatment changes (Session 6 – Session 1) on all measures……47

1. Introduction

1.1. Self-criticism

Self-criticism has been understood as negative internal dialogue and associated feelings about the self, which occurs on a continuum in both clinical and non-clinical populations (Gilbert, Clarke, Hempel, Miles & Irons, 2004). Self-criticism can be a healthy and reflexive behaviour (Kannan & Levitt, 2013), however harsh self-critical judgements and scrutiny are commonly observed in people experiencing psychological problems (Shahar et al., 2012).

Although self-criticism can be a state process (Cristea, Tatar, Lucacel & 2014; Whelton & Greenberg, 2005), it may also reflect a general tendency towards self-focused attention to errors and responding to these punitively (Longe et al., 2010). An enduring tendency to engage in self-criticism may be viewed as a personality trait. Self-critical personality has been considered to contribute to a negative, rigid, and unrealistic self-view informed by repeated self-attacking (Shahar, 2001). Both psychodynamic (Blatt, 1974; Blatt & Blass, 1990) and cognitive-behavioural (Beck, 1983, 1991) theories refer to two different forms of personality – self-critical / autonomous versus dependent / sociotropic – which both convey vulnerability to psychopathology.

Research into the phenomenology of self-criticism reveals that it can be a multi-dimensional construct with different forms and functions (Whelton & Henkleman, 2002). For example, Gilbert et al. (2004) found that these include focusing on perceived failures with self-attacking focused on feelings of inadequacy worthlessness with an aim to self-improve, or on feelings of self-disgust and self-hatred with an aim to self-persecute. Results from this female student sample have been found to generalise into general adult and clinical populations (Hutton, Kelly, Lowens, Taylor & Tai, 2013; Kupeli, Chilcot, Schmidt, Campbell & Troop, 2013).

1.1.1. Self-criticism and mental health

Self-criticism is a transdiagnostic process commonly observed in depression but also social anxiety, post-traumatic stress disorder, psychosis, personality disorders, eating disorders, suicidality, anger, and chronic-pain among other clinical presentations (Costa & Pinto-Gouveia 2011; Gilbert & Irons, 2004; Shahar et al., 2012). Self-criticism has been associated with increased symptom severity and functional impairment in depression and eating disorders (Kelly & Carter 2013; Lerman, Shahar & Rudich, 2012; Luyten et al., 2007; Thew, Gregory, Roberts & Rimes, 2017). Furthermore, a recent systematic review of prospective studies in students found that self-criticism was significantly associated with subsequent psychopathology, however most of this evidence related to depression (McIntyre, Smith & Rimes, 2018). Lastly, cross-sectional

and prospective studies have found that the psychological vulnerability to depression, social anxiety and binge eating disorder conveyed through self-criticism remains after controlling for symptom severity (Cox, Fleet & Stein, 2004; Dunkley & Grilo, 2007; Mongrain & Leather, 2006). Given the transdiagnostic nature of self-criticism, it is important to understand the relationship between self-criticism and psychological distress and wellbeing.

There appears to be a need to develop effective interventions for self-criticism as a poorer response to psychological therapy has been found in self-critical patients (Gilbert et al., 2006a; Rector et al., 2000). This may be partly because self-criticism disrupts interpersonal relationships. Indeed, the therapeutic alliance, suggested to be a mechanism of change across therapies (Jensen, Weersing, Hoagwood & Goldman, 2005; Wampold, 2015) is evidenced to be poorer in self-critics (Safran & Muran 1996; Whelton, Paulson & Marusiak, 2007).

The 'Self-criticism Cascade' model by Shahar (2016) provides an explanation for the robust relationship between self-criticism and psychopathology. This researcher proposes that self-criticism results in maladaptive coping and low autonomous motivation. It is suggested that these in turn generate life stress, limit positive experiences and social support, leading to psychopathology, which provide further fuel for self-criticism. Other mechanisms that may impact the relationship between self-criticism and psychopathology include, a reduced ability to resist self-attacks (Gilbert, Durrant & McEwan, 2006b; Whelton & Greeenberg, 2005), shame (Castilho, Pinto-Gouveia & Duarte, 2017; Shahar, 2001), and reduced levels of self-affirmations (Cohen & Sherman, 2014). Self-critical thinking is considered another key process through which perfectionism leads to psychopathology (James, Verplanken & Rimes, 2015; Shafran, Cooper & Fairburn, 2002); the literature on perfection includes extensive research on the construct of 'self-critical perfectionism' (Dunkley & Blankenstein, 2000; Stoeber & Otto, 2006). The relationship of various constructs to self-criticism and their treatment implications will be discussed below.

1.2. Constructs closely associated with self-criticism

1.2.1. Self-esteem

Global self-esteem refers to the overall self-evaluation and attitude towards the self, where the self is perceived as being good enough (Leary & Baumeister, 2000; Rosenberg, 1965). Low self-esteem is a well-established transdiagnostic risk factor prevalent across several psychiatric conditions (O'Brien, Bartoletti & Leitzel, 2006; Zeigler-Hill, 2011); whereas, overall, high self-esteem buffers against psychopathology and promotes wellbeing (Chioqueta & Stiler, 2007;

Khatibi & Fouladchang, 2015). Holding a negative view of our self and our qualities can be expected to increase the probability of engagement in self-critical modes, which would fuel negative self-esteem. Indeed, a close relationship between self-criticism and self-esteem has been suggested in the literature, with some researchers considering self-criticism to be a key component of low self-esteem (Fennell, 1997; Owens, 1993). Furthermore, self-criticism and self-esteem have been found to be negatively associated through the lifespan (Schiller, Hammen & Shahar, 2016; Stolow, Zuroff, Young, Karlin & Abela, 2016).

Treatment focused on enhancing self-esteem has been recommended for self-critics (Dunkley, Masheb & Grilo, 2010). Fennell's (1997) transdiagnostic cognitive behavioural therapy (CBT) model of self-esteem conceptualises self-criticism as a maintaining factor for low self-esteem, however the impact of this therapy on self-criticism is unknown. Further research is needed to understand how one may be self-critical without harming self-esteem in order to facilitate self-development.

1.2.2. Rumination

Rumination refers to the process of repetitive, self-focused attention on distress that perpetuates emotion dysregulation, and maladaptive coping (Nolen-Hoeksema, 2004; Smith & Alloy, 2009; Treynor, Gonzalez & Nolen-Hoeksema, 2003). The role of rumination in generating and maintaining psychological disorders has robust evidence, albeit predominantly in depression (Nolen-Hoeksema, Wisco & Lyubomirsky, 2008; Smart, Peters & Baer, 2016). Prospective studies have found depressive rumination to mediate the relationship between self-criticism and psychological distress (O'Connor & Noyce, 2008; Schiller at al., 2016).

Self-critical rumination can be viewed as a specific type of rumination (Smart et al., 2016), which is often but not always related to shame (Cheung, Gilbert & Irons, 2004), depressive or anger rumination (Smart et al., 2016) and plays a unique role in maintaining self-criticism (Gilbert & Procter, 2006). Therefore, improvements in self-critical rumination can be expected to be related with reductions in self-criticism and psychological distress.

1.2.3. Self-Compassion

Self-compassion refers to a form of self-relating, especially during difficult experiences (Gilbert, 2014; Neff & Vonk, 2009). A commonly accepted conceptualisation of self-compassion adopted

from Buddhist traditions refers to self-compassion as responding to ourselves and our distress in a sensitive and supportive style aimed at alleviating suffering (Gilbert, 2009a; Neff, 2003a).

Self-compassion has been shown to be inversely correlated with self-criticism in psychometric studies (Castilho, Pinto-Gouveia & Duarte, 2015; Smart et al., 2016) and evidence suggests that self-critical individuals can struggle to experience self-compassion (Gilbert, McEwan, Matos & Rivis, 2011; Gilbert & Procter, 2006). Therefore, self-compassion exercises are expected to be helpful for people who experience suffering related to self-criticism as they develop a more supportive relationship with oneself. Furthermore, experiential self-compassion techniques might be particularly beneficial because they provide opportunities to experience self-compassion. Finally, self-criticism can become an automatic mental habit (Verplanken, 2006; Verplanken et al., 2007) and self-compassion is a potential alternative response that can be cultivated to become habitual (Neff & Germer, 2013).

Self-compassion is also closely related to constructs associated with self-criticism. For instance, over an 8-month period in a predominantly female sample of Dutch adults, Neff and Vonk (2009) found that compared to global self-esteem, a self-compassionate attitude predicted greater stability in state self-esteem and levels of global self-esteem that were less contingent on specific outcomes. Another longitudinal observational study found evidence consistent with the hypothesis that self-compassion protects against psychopathology in adolescents by moderating the effects of low self-esteem (Marshall et al., 2015). Openness to suffering, a hallmark of self-compassion in Buddhism-based psychological approaches, may help to prevent unhelpful beliefs about experiencing negative emotions. Beliefs that negative emotions are unacceptable or a sign of weakness that will lead to negative evaluation by others have been found to be associated with an array of mental health problems (Rimes & Chalder 2010) and habitual self-critical thinking (James et al., 2015). High capacity to self-reassure in difficult situations, including self-criticism, may be considered an aspect of self-compassion (Gilbert, 2000; Kupeli et al., 2013); as expected, these processes are moderately associated in clinical and non-clinical samples (Castilho et al., 2015; Thew et al., 2017).

Meta-analyses, predominantly of cross-sectional evidence have found a robust inverse association between self-compassion and psychopathology, with a moderate to large effect size (Macbeth & Gumley, 2012; Muris & Petrocchi, 2016). Another meta-analysis of prospective and experimental studies found increases in self-compassion are associated with subsequent improvements in psychological wellbeing (Zessin, Dickhäuser & Garbade, 2015). Therefore, self-

compassion shows potential as an effective transdiagnostic target for mental health interventions.

1.3. Treatment of self-criticism

Group CBT (Berlin, 1985) and cognitive-behavioural techniques (de Oliviera et al., 2012) have been investigated as interventions for self-criticism. Several therapies have been specifically designed to increase self-compassion, often with the explicit or implicit assumption that they will reduce self-criticism. These include meditation (Albertson, Neff & Dill-Shackleford, 2014; Shahar et al., 2015), a virtual reality paradigm (Falconer et al., 2014), Mindful Self-Compassion (Neff & Germer, 2013) and Compassion Cultivating Training (Jazaieri et al., 2013).

Emotion Focused Therapy (EFT) is a transdiagnostic therapy that focuses on self-criticism and negative affect is considered one of the key maintaining factors of self-criticism, which is resolved with two-chair dialogue. The resolution stages within this technique can include experiencing compassion towards the self, becoming self-soothing and less judgemental to develop a unified self, which reflects the adaptive integration of self-critic and the self (Greenberg, 2004; Greenberg, Rice & Elliott, 1993; Kannan & Levitt, 2013). Shahar et al. (2012) evaluated this component of EFT, the two-chair technique as an intervention for self-criticism. Compassion Focused Therapy (CFT) (Gilbert, 2009a, 2009b) is the most widely investigated intervention for self-criticism and will be described in more detail below.

1.4. Compassion Focused Therapy

CFT is an integrative therapy drawing upon ideas from evolution, neuroscience, attachment theory, CBT and experiential therapies (Gilbert, 2009a). CFT is based upon the heuristic conceptualisation of humans having three interacting emotion regulation systems with associated physiological correlates (Gilbert, 2010a). In this model, the threat-protection system aims to detect threats quickly; it triggers a wide range of physiologically adaptive processes to help the body effectively cope with danger, leading to safety strategies to try to protect against threats. Activation of this system is associated with emotions like anxiety or anger. Cognitive processes like self-criticism, rumination and worry can all be conceptualised as safety strategies associated with this system. The motivation-drive system's function is activation and achievement, which trigger short-lived emotions of excitement and pleasure that are physiologically self-reinforcing. When threats and resource acquisition are managed, the affiliative-soothing-safeness system can be activated. This system drives social connection and

is associated with contentment, feelings of calmness and interpersonal trust as well as physical relaxation.

The CFT approach involves Compassionate Mind Training (CMT), focusing on systematically enhancing the affiliative-soothing-safeness system by teaching self-compassionate skills such as compassionate attention, reasoning, imagery, emotions, actions and physical sensations. CMT is considered to enhance self-compassion by increasing its constituent attributes - sensitivity to distress, sympathy and empathy for distress, non-judgmental acceptance of experiences, distress tolerance and a deep care for well-being (Gilbert, 2010a).

It has been argued that traditional CBT approaches can lead to cognitive processing without associated emotional change; a problem commonly referred to as the 'head-heart' lag (Bell, Mackie & Bennett-Levy, 2014; Stott, 2007). CFT was designed specifically for people with high levels of shame and self-criticism. CFT suggests that difficult life experiences and subsequent habitual attempts to defend against perceived threats lead to self-criticism, which triggers and maintains activation of the threat-protection system, resulting in a chronically overactive threat-protection system and underactive affiliative-soothing-safeness system (Gilbert, 2010a; Gilbert & Irons, 2005). This could explain why self-critics are less likely to be able to feel self-compassion or even fear it, potentially despite intellectually understanding the need for self-compassion. For these reasons, Gilbert argues that an experiential approach to increasing compassion is likely to be especially beneficial in this population (Gilbert, 2010a; Gilbert & Procter, 2006). CFT uses imagery and compassionate ways of reframing one's experiences to aim to cultivate the entire compassionate schema, including emotions, which may help to bridge the head-heart gap.

A growing evidence base, mainly involving non-randomised studies, finds CFT approaches could be helpful for treating people with depression, anxiety, eating disorders and serious mental illnesses (see Leaviss & Uttley, 2015 for a review). Several of the studies reviewed were conducted with highly self-critical individuals, typically reporting improvements in self-criticism, psychological problems, and self-compassion (for example Judge, Cleghorn, McEwan, & Gilbert, 2012; Lucre & Corten, 2013; Gilbert & Procter, 2006). Moreover, a recent randomised controlled trial (RCT) of CFT within a community sample found that self-compassion conveyed both wellbeing enhancing and psychopathology buffering effects (Sommers-Spijkerman, Trompetter, Schreurs & Bohlmeijer, 2018).

A previous study (Rose et al., 2018) specifically recruited highly self-critical individuals, investigating a CFT based intervention for self-criticism in 23 highly self-critical university students. Their six-session intervention focused on formulation, understanding and becoming aware of self-criticism, and techniques to reduce self-critical thinking and cultivate self-compassion. The intervention included cognitive techniques such as self-monitoring of self-criticism and compassionate reframes; behavioural techniques included modification of triggers and taking compassionate actions. Relaxation exercises targeted physiological functioning, and experiential techniques such as imagery exercises. Decentring, a key component of mindfulness (Feldman, Greeson & Senville, 2010; Shapiro, Carlson, Astin & Freedman et al., 2006), and specific compassion-based exercises like Loving Kindness Meditation were also included.

Rose et al. (2018) found that the intervention for self-criticism was considered acceptable and useful by the participants. Pre-post comparisons found significant improvements on all outcomes – self-criticism, functional impairment, depression, anxiety, self-esteem, and perfectionism. Self-compassion, beliefs about the acceptability of negative emotions, and emotion regulation strategies were considered potential mechanisms of change. These process measures also showed significant improvements; increased self-compassion in particular had a strong inverse relationship with changes in self-criticism. These changes were maintained or had improved further by the two-month follow-up.

1.5. Primary Mental Healthcare

England's National Health Service (NHS) offers primary mental healthcare through local Improving Access to Psychological Therapies (IAPT) services. The IAPT initiative was launched in 2008 to treat the 'common mental disorders' (CMD) of depression and anxiety using a stepped-care approach. CMD are a key public health target associated with distress, functional decline, unemployment, and mortality (Stansfeld et al., 2016; World Health Organisation, 2017). A national study conducted in 2014 found that the rate and severity of CMD in the UK has increased since 2000; and the estimated the prevalence of CMD was 17%, with 33% accessing treatment (Stansfeld et al., 2016).

As outlined above, self-criticism is a common transdiagnostic factor across CMD and there is preliminary evidence that reducing self-criticism is associated with decreased distress and symptoms of psychopathology (Rose et al., 2018). Therefore, interventions targeting the self-critical process may provide an effective primary mental healthcare intervention. Previous

research has found that individuals with a range of mental health problems express an interest in treatment for self-criticism (Gilbert & Procter, 2006; Thew et al., 2017).

A key principle of IAPT is to increase patient choice regarding treatment options (Joint Commissioning Panel for Mental Health, 2012). Developing brief, manualised, easy to implement, high-intensity treatments is crucial for enhancing patient choice in the face of limited resources. This is important since expanding and improving IAPT services is a national target (Mental Health Taskforce, 2016). An intervention to reduce self-criticism and cultivate compassion, a transdiagnostic psychological wellbeing factor, has the potential to be a useful intervention for many patients in IAPT services.

1.6. The current study

This study aims to evaluate a CFT-based intervention for self-criticism in a primary mental healthcare setting by extending the work of Rose et al. (2018) on self-critical university students into a clinical population. The first step in evaluating novel interventions is often an uncontrolled feasibility study on a small sample. Such research is useful to establish preliminary findings before undertaking a larger scale trial.

The primary aim was to evaluate the feasibility and acceptability of this novel intervention in an IAPT service. A secondary aim was to investigate whether this intervention was associated with reductions in self-criticism at post-intervention and two-month follow-up, and to gain preliminary information about potential mechanisms of change.

The following hypotheses are tested in this study:

1. The recruitment and retention rates will indicate that this intervention is feasible to deliver in IAPT and to investigate in a larger study.
2. The assessment approach and intervention will be considered acceptable by patients.
3. Relative to baseline scores, at post-intervention and two-month follow-up, participants will report significantly lower levels of self-criticism, functional impairments due to self-criticism, depression, anxiety, and significantly higher levels self-esteem.
4. Relative to baseline scores, at post-intervention and two-month follow-up there will be significantly higher levels of self-compassion, self-reassurance, helpful beliefs about negative emotions; increases in these variables will be associated with reductions in self-criticism.

5. Changes at post-intervention will be maintained by follow-up on all variables measured – self-criticism, functional impact of self-criticism, depression, anxiety, self-compassion, self-esteem, self-reassurance, and unhelpful beliefs about negative emotions.

2. Method

2.1. Approvals

This research was granted approval by the NHS Health Research Authority and the Research Ethics Committee (IRAS project ID 215147; REC reference 17/LO/0335), South London and Maudsley (SLaM) NHS Foundation Trust's Research and Development department and the Psychological Medicine and Integrated Care (PMIC) Clinical Academic Group (CAG).

2.2. Design

This feasibility study of a novel six-session intervention used an uncontrolled design. Recruitment rates, retention rates, participant feedback and therapist feedback were collected to evaluate feasibility and acceptability. In addition, preliminary information about effectiveness was assessed using a repeated-measures, pre-post treatment design, to compare scores standardised outcome measures collected at screening, after a minimum two-week baseline period (pre-treatment), at further weekly sessions (sessions 2 - 5) and at the two-month follow-up (Appendix 1 for the trial flow-diagram; Appendix 2 for measures collected at each time point).

2.3. Participants

Participants were recruited from a local IAPT service, Talking Therapies Southwark (TTS). Inclusion and exclusion criteria are shown in Figure 1 below.

Power analyses are not required (Carter & Woolson, 2004) and seldom used (Arian et al., 2010) for uncontrolled pilot or feasibility studies. A target sample size of 20 participants was selected based on research recommendations for pilot studies (Hertzog, 2008).

Inclusion Criteria

1. Registered with and opted into the IAPT service
2. Score at least 10 on the Work and Social Adjustment Scale (WSAS) regarding the impact of self-criticism on their daily life
3. Requesting help for their self-criticism.

Exclusion Criteria

1. Not being sufficiently proficient in English to fully participate in the sessions with English-speaking therapists or process the written study materials for any reason.
2. Being unable to attend six sessions of assessment/treatment.
3. Presenting with high levels of risk requiring monitoring and assistance beyond the weekly intervention focusing on self-criticism.
4. Current serious mental health problem such as bipolar disorder, anorexia nervosa or a moderate / severe substance use disorder.
5. Cognitive impairment or psychomotor retardation of a degree that would prevent completion of the study treatment protocol with the individual. This would be based on a clinical judgement by potential referrers or by the clinician undertaking the screening assessment.
6. Currently experiencing a degree of life stress (e.g. recent bereavement) that is judged by the assessor to be likely to seriously adversely affect their ability to benefit from the intervention
7. New pharmacological interventions for psychological distress - i.e. a change of medication or dosage in the last 4 weeks.
8. Current participation in another clinical (talking therapy or drug) trial or another psychological intervention.

Figure 1: Inclusion and exclusion criteria

2.4. Measures

The questionnaires (described below) were standardised, self-report measures with well-established psychometric properties, except the feedback questionnaires that were developed for the purpose of this study and the pre-treatment expectations rating scales (Appendix 3 for copies of all measures). To reduce burden on participants, the full dataset was only completed at sessions 1 (pre-treatment), 4 (mid-treatment), 6 (post-treatment), and follow-up. Each measure's Cronbach's alphas across all time-points is reported below to indicate internal consistency; satisfactory limits were considered to be α =.70-.95 (Tavakol & Dennick, 2011).

2.4.1. Primary outcome measures

The Habitual Index of Negative Thinking (HINT) (Verplanken et al., 2007)

The HINT measures habitual negative self-thinking. Twelve items are rated on a 5-point Likert scale ranging from 'Strongly disagree' to 'Strongly agree'. The maximum score is 60; higher

scores represent greater levels of negative self-thinking. In this study Cronbach's alphas ranged from .84 to .95 across all the time-points.

The Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) (Gilbert et al., 2004)

The FSCRS measures different types of self-critical and self-supportive responses to failures and setbacks. The 22 items constitute three subscales: 'Inadequate Self' (FSCRS-IS; 9 items), 'Hated Self' (FSCRS-HS; 5 items), and 'Reassured Self' (FSCRS-RS; 8 items). FSCRS-IS reflects self-criticism focused on feeling inadequate and disappointed with oneself, while the FSCRS-HS reflects self-criticism focused on self-hatred and self-punishment. These sub-scales assess forms of self-criticism; whereas FSCRS-RS measures the ability to self-soothe and reassure is reported as a process measure. Each item is rated on a 5-point Likert scale ranging from 'Not at all like me' to 'Extremely like me'. In this study, Cronbach's alpha ranged from .74 to .92 for 'inadequate self', from .73 to .88 for 'hated self', and .82 to .91 for 'reassured self'.

Self-Critical Rumination Scale (SCRS) (Smart et al., 2016)

The SCRS measures self-critical rumination, using ten items, rated on a 4-point Likert scale ranging from ranging from 'Not at all' to 'Very well'. The maximum score is 40; higher scores reflect greater levels of self-critical rumination. Cronbach's alphas ranged from .82 to .94 in this study.

2.4.2. Secondary outcome measures

Generalised Anxiety Disorder (GAD-7) (Spitzer et al., 2006)

The GAD-7 measures the frequency of symptoms of anxiety over the past two weeks, using seven items, rated on a 4-point Likert scale ranging from 'Not at all' to 'Nearly every day'. The maximum score is 21; higher scores represent more severe anxiety. In IAPT services, scores below 8 indicate recovery. Cronbach's alphas ranged from .77 to .91 in this study.

Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer & Williams, 2001)

The PHQ-9 measures the frequency of depressive symptoms over the past two weeks, using nine items, rated on a 4-point Likert scale ranging from 'Not at all' to 'Nearly every day'. The maximum score is 27; higher scores represent more severe depression. Scores below 10 are considered to indicate recovery in IAPT services. Cronbach's alphas ranged between .78 and .88 in this study.

Rosenberg's Self-Esteem Scale (RSES) (Rosenberg, 1965)

The RSES measures global, trait self-esteem through ten items, rated on a 4-point Likert scale ranging from 'Strongly disagree' to 'Strongly agree'. Half the items are reverse scored; the maximum score is 40, with higher scores representing higher self-esteem. Cronbach's alphas ranged from .79 to .89. This was the only secondary outcome measure that is not routinely collected within IAPT services.

Work and Social Adjustment Scale (WSAS) (Mundt et al., 2002)

The WSAS measures impairment across different functional domains, using five items, rated on a 9-point Likert scale ranging from 'Not at all' to 'Very severely'. The scale was adapted to specifically evaluate the impact of self-criticism. The maximum score is 40, higher scores reflect greater functional impairment. Scores above nine are considered to indicate significant functional impairment. In the non-clinical trial (Rose et al., 2018), the same cut-off was successfully applied to indicate clinically significant levels of self-criticism. In this study Cronbach's alphas ranged from .47 to .90.

2.4.3. Process measures

Self-Compassion Scale (SCS) (Neff, 2003b)

The SCS measures self-compassion on six sub-scales. Twenty-six items are rated on a 5-point Likert scale ranging from 'Almost never' to 'Almost always'. Three sub-scales reflect different components of self-compassion – 'common humanity', 'self-kindness' and 'mindfulness' (13 items); another three sub-scales represent related, opposing components – 'self-judgement', 'over identification' and 'isolation' (13 items; reverse scored). The two sub-scales form two factors, 'positive self-compassion' and 'self-coldness' or 'negative self-compassion'. The maximum score is 130; higher scores represent greater self-compassion. The total score was analysed in this study as it represents a single factor (Neff, Whittaker & Karl, 2017). Cronbach's alphas ranged from .84 to .95.

Beliefs about Emotions Scale (BES) (Rimes & Chalder, 2010)

The BES measures beliefs about the unacceptability of experiencing or expressing negative emotions, using 12 items rated on a 7-point Likert scale ranging from 'Totally disagree' to 'Totally agree'. The maximum score is 72; higher scores represent more negative beliefs about the unacceptability of negative emotions. Cronbach's alphas ranged from .78 to .94.

2.4.4. Other measures

Structured Clinical Interview for DSM-5 Disorders, Research Version (SCID-5-RV) (First, Williams, Karg & Spitzer, 2015)

This semi-structured interview systematically evaluates the major DSM-5 diagnoses using ten modules. It was used in this study to describe the sample and ensure they met the inclusion criteria and did not meet the exclusion criteria.

The Functions of Self-Criticizing/Attacking Scale (FSCS) (Gilbert et al., 2004)

The FSCS was used in session 1 to enhance formulation as it explores typical reasons for self-criticism. Participants rated 21 items, on a 5-point Likert scale ranging from 'Not at all like me' to 'Extremely like me', which constitute the two subscales – self-correction' (13 items) and 'self-persecution' (8 items).

Pre-treatment expectations rating-scales

At session 1, participants rated how logical the treatment appeared on an 11-point visual analogue scale and also rated their confidence in treatment improving self-criticism on a 5-point visual analogue scale); all scales ranged from 'not at all' to 'extremely' (Appendix 3.2).

Participant and therapist feedback about the intervention and study process

At post-intervention, participants completed an online questionnaire based upon the previous non-clinical study (Rose et al., 2018). This contained quantitative rating scales and open-ended qualitative questions to evaluate various aspects of the intervention, including the usefulness of each technique (Appendix 3.3.). At follow-up, participants re-rated the usefulness of each technique on the same 5-point Likert scale used at post-intervention, provided frequency of usage ratings for each technique and further qualitative feedback (Appendix 3.4). Qualitative feedback about the intervention and study process was collected from therapists at the end of the study.

2.5. Procedure

The study procedure is summarised in Appendix 1. Recruitment took place from May until November 2017. In May 2017 all patients on the CBT Guided Self Help waiting list were sent a cover letter and information sheet (Appendix 4) and could contact the researcher if they were interested in taking part. IAPT clinicians also referred potentially suitable patients who were newly referred, approaching the end of a treatment for a problem other than self-criticism, or

on a treatment waiting list. All potential patients had provided consent for researchers to contact them.

Each potential participant received another copy of the information sheet and a brief telephone-call to explain the research and answer any questions. If they appeared to meet inclusion criteria and wished to proceed, they completed screening questionnaires online. This was followed by the SCID and risk management plans if required, in a subsequent telephone assessment, which lasted two-to-three hours and was often broken into smaller parts as per participants' preference. This screening was conducted by a trainee clinical psychologist.

Eligibility was discussed in supervision and decisions were conveyed to participants by phone or email. All eligible participants consented (verbally or by email) to take part in the study and provided a signed copy of the consent form at their first clinical session. Participants for whom the intervention was not suitable were offered alternative treatments within IAPT.

The intervention was provided by a trainee clinical psychologist or one of three IAPT clinicians who volunteered to take part in this trial – a trainee counselling psychologist and two CBT therapists. A consultant clinical psychologist provided training at the start of the intervention, weekly supervision for screenings and clinical sessions. All sessions were audio-recorded and listened to by the supervisor to check treatment fidelity and provide supervision.

Participants were offered treatment on a first-come-first-served basis until 20 participants were recruited into the study. To establish an adequate baseline-period, the minimum time between screening and 'pre-treatment' was two weeks. The average 'treatment waiting-time' (time between screening and pre-treatment) was 38.1 days (SD=23.8 days). Average 'treatment length' (time between pre-treatment to post-treatment) was 52.7 days (SD=13.5) and each therapist worked with 4-7 patients. During therapy, measures were completed weekly (usually online, and on occasion due to technical difficulties as a paper copy) before each session. The average 'follow-up length' (time between post-treatment and follow-up) was 67.9 days (SD=13.1 days). Variations in treatment and follow-up length were due to sickness, leave, and family or work other commitments.

At post-treatment and follow-up participants were reviewed by their therapist, discussed in supervision, and offered further treatment if clinically indicated.

2.6. Intervention content

The intervention offered was a course of six, weekly one-hour (except session 1, which was 90 minutes), individual, face-to-face sessions with a two-month post-treatment telephone follow-up session.

Session 1 included a detailed assessment of self-criticism, which was used for developing each participant's individualised formulation (adapted from Gilbert, 2010c; Appendix 6.1). From the first session participants were provided psychoeducation about compassion-focused therapy – the heuristic models of 'old' and 'new' brain, three emotion regulation systems, and compassionate skills and attributes (Gilbert, 2010b, 2014). These ideas were referred to throughout therapy. The treatment focused on cultivating new skills to cope with and reduce self-criticism through enhancing self-compassion.

All subsequent sessions followed the same structure – agenda setting, week and homework review, introduction of at least one new technique to reduce or manage their self-criticism, summarising the session, feedback, and homework setting. At each session, participants were provided a booklet designed for this intervention expanding on the session content. The treatment protocol (Appendix 5) and booklets were reviewed by a service user at IAPT and adapted from Rose et al. (2018). They were based upon Compassion-Focused Therapy and the related multimodal Compassionate Mind Approach (Gilbert & Procter, 2006; Gilbert, 2010a, 2010b), standard CBT methods and research on self-criticism.

The follow-up session allowed the opportunity to evaluate progress, review techniques, make plans for using the techniques in the future, and discuss further treatment or signposting where appropriate.

2.7. Data preparation and analyses

2.7.1. Hypotheses 1 and 2: Feasibility and acceptability

The recommendations by Thabane et al. (2010) were adopted for evaluating feasibility and acceptability. Feasibility was assessed primarily by analysing recruitment and retention. Recruitment analyses encompassed the number of referrals, percentage of suitable referrals and percentage of eligible referrals that consented to participate. Retention rates included drop-outs before the intervention, and withdrawals during the intervention.

Acceptability was assessed using rating-scales about how logical the treatment seemed and how confident participants were that the treatment would help their self-criticism. A feedback questionnaire at post-intervention assessed the acceptability of the assessment, weekly questionnaire completion, the intervention overall and specific techniques, structure and treatment access. Therapists' feedback, recruitment and retention rates provided additional information about acceptability.

Qualitative feedback was entered into Microsoft Excel and analysed by the researcher using brief, conventional content analysis (Hsieh & Shannon, 2005; Mayring, 2000) following the guidelines recommended by Mayring (2000) for inductive category development. The analysis process had three phases. In the first phase, data was read several times for each feedback question to derive categories. Categories were derived directly from participants' responses to reflect the main themes in their responses. In the second phase, 50% of the dataset (10 participants' feedback) was categorised. Based upon these initial ratings, the categories were refined as needed to generate the final categories. In the final phase, all responses were categorised into the appropriate categories. To help interpret the results, frequency counts for each category are reported as suggested by Mayring (2000).

2.7.2. Hypotheses 3 and 4: Changes in self-criticism and other outcomes after treatment

2.7.2.1. Data preparation

Items 2-5 rated as 'not applicable' on the WSAS were scored as '0', because the WSAS only provides this option for the 'work' item. Case mean imputation (Fox-Wasylyshyn & El-Masri, 2005) was used for the four missing items in the dataset. Additionally, all questionnaires were missing for one participant at session 2; the WSAS was incomplete for one participant at session 2 and 3. These scores were not imputed as data from sessions 2,3, and 5 was only used for checking internal reliability.

Throughout, 'pre-treatment' and 'baseline' refer to session 1, 'mid-treatment' refers to session 4, and 'post-treatment' is session 6. Totals, sub-scale totals, and change-scores were computed – 'pre-treatment changes' (screening – session 1), 'post-treatment changes' (session 6 – session 1), 'follow-up changes' (follow-up – session 1), and 'follow-up only changes' (follow-up – session 6). Additionally, 'treatment' and 'intervention' are used synonymously. There were only two outliers – FSCRS-RS post-treatment changes (n=1) and BES follow-up changes (n=1). See Appendix 8 for information on data preparation for statistical analyses.

2.7.2.2. Data analysis

Repeated-measures ANOVAs were conducted for each questionnaire; the independent variable was 'time' – screening (if completed), pre-treatment, mid-treatment, post-treatment. The non-parametric, Friedman's tests were also employed but produced the same results and are not reported. Where the assumption of sphericity was violated, the conservative Greenhouse-Geisser correction, with adjusted degrees of freedom is reported.

For all significant findings, planned contrasts were run using paired *t-tests.* Comparisons between screening and pre-treatment were used to identify any significant changes during the baseline period. Treatment changes were assessed by comparing pre-treatment to post-treatment, and from pre-treatment to follow-up. To investigate whether there were further changes after the end of treatment, post-treatment and follow-up scores were compared. Wilcoxon sign-rank tests are not reported because they provided the same results. The effect size of these *t-tests* was calculated using Cohen's *d*, as recommended for use in clinical research with an uncontrolled pre-post design (Seidel, Miller & Chow, 2013); the mean of the difference between scores divided by the standard deviation (SD) as shown in Figure 2. This method was also used by Rose et al. (2018).

$$d = \frac{Mean\ (Time\ 2 - Time\ 1)}{SD_{Time\ 1}}$$

Figure 2: Estimate of effect size, Cohen's d

Finally, paired *t*-tests checked if the magnitude of pre-treatment (screening to session 1) changes in the baseline period were significantly different to post-treatment (session 1 to post-treatment) and follow-up (session 1 to follow-up) changes. A Wilcoxon sign-rank test was run on the SCSRS, PHQ9, and GAD7 but provided the same result.

Corrections for multiple tests were not used as because this is a feasibility study (Pagano, 2013). Analyses were repeated, excluding outliers and using non-parametric tests where applicable (Appendix 8). These are only reported if statistical significance was affected. No post-hoc analyses were conducted. Effect sizes are interpreted using guidelines by Cohen (1992).

This analysis plan is based upon the previous non-clinical study (Rose et al., 2018) and consultations with a statistician. All statistical analyses were conducted on SPSS (IBM Corp, 2016).

The effects of other factors on outcome

The limited sample size precluded statistical tests about therapist effects, however mean change scores and standard deviations were calculated for each therapist separately.

To check if differences in time-intervals predicted outcomes, linear regressions were conducted. Assumptions about homoscedasticity, normal distribution of residuals, and collinearity for linear regression were met. To investigate any impact of the baseline, treatment or follow-up duration, post-treatment changes were regressed upon 'baseline duration' (time between screening and pre-treatment) and 'treatment duration' (time between pre- and post-treatment); 'follow-up only changes' were regressed upon 'follow-up duration' (time between post-treatment and follow-up).

Correlations

Intercorrelations between measures on post-treatment changes were explored using Pearson's correlations. Spearman's correlations are reported for the FSCRS-RS (n=19).

3. Results

3.1. Participant characteristics

3.1.1. Socioeconomic characteristics

Participants ranged in age from 18 to 53 years (M= 30.1, SD=7.7); they were predominantly female (n=15, 75%) and Caucasian (n=17, 85%). One participant had dyslexia, but no other disabilities were reported. Additional sociodemographic information is presented in Table 1.

Table 1: Sociodemographic *details of the study sample*

Demographic Variable	**n**	**%**
Ethnicity		
Caucasian	17	85%
Black African/Caribbean	1	5%
Arab	1	5%
Mixed race	1	5%
Employment		
Full-time education or work	17	85%
Part-time	2	10%
Seeking employment	1	5%
Education		
GCSE or equivalent (16 years)	1*	5%
"A" Level or vocational exams (18 years)	3	15%
Undergraduate degree	10	50%
Postgraduate qualification	6	30%
Long-term physical health condition		
None	16	80%
Two or more	4	20%
Relationship status		
Single	12	60%
In a relationship	1	5%
Married/Cohabiting	7	35%

*Note: **participant was aged 18 and completing A levels during this trial.*

3.1.2. Mental health characteristics

3.1.2.1. Medication

At pre-treatment, ten participants were not on psychiatric medication, eight were on a stable dose of antidepressants for at least one month, and two were taking over-the-counter medication for depression, anxiety, or sleep. By post-treatment, three participants had increased dosage or started medication; another participant commenced medication by follow-up.

3.1.2.2. Psychiatric diagnoses

The psychiatric diagnoses indicated by clinical interview (SCID-5-RV) for the participants are shown in Tables 2 and 3.

Table 2: Psychiatric diagnoses within the sample.

Diagnoses	**Number of Participants**
Depressive disorders	**19**
Major Depressive Disorder	**5**
(Recurrent subtype)	(4)
Persistent Depressive Disorder (PDD)	**8**
(with current Major Depressive Episode; MDE)	(5)
(without current MDE)	(3)
Premenstrual Dysphoric Disorder (PMDD)	5
Other specified depressive disorders	*5*
Anxiety disorders	**18**
Social Anxiety Disorder	11
Generalised Anxiety Disorder (GAD)	8
Other specified anxiety disorders	*4*
Other Disorders	
Attention Deficit Hyperactivity Disorder (ADHD)	**3**
(Inattentive subtype)	(2)
(Hyperactive/impulsive subtype)	(1)
Substance Misuse Disorder	2
Obsessive-Compulsive Disorder (OCD)	1
Body Dysmorphic Disorder (BDD)	2
Other specified eating disorder	*6*
Trauma and stressor related disorder	*3*

All participants reported a current depressive disorder, except one participant who reported depression in partial remission. One participant's depression was secondary to anxiety

disorders. 'Other specified depressive disorders' included chronic sub-threshold persistent depressive disorder (PDD), or sub-threshold symptoms of a major depressive episode within the context of PDD or recurrent major depressive disorder (MDD); these problems caused significant impairment or distress and occurred in the absence of another depressive disorder. 85% of the sample had early onset depressive disorders (n=17). Eighteen participants met criteria for an anxiety disorder, including four with 'other anxiety disorders' such as chronic anxiety, or subthreshold generalised anxiety disorder (GAD), and/or social anxiety disorder associated with significant distress or impairment. Five participants reported panic that accompanied depression and/or anxiety. The two participants with substance misuse disorder had mild symptoms related to cocaine and alcohol, and cocaine and cannabis usage. Six participants had 'other specified eating disorders', reporting a variety of symptoms including self-evaluation that is unduly influenced by body shape and weight, restriction, bingeing, and/or compensatory behaviours that were causing significant distress or functional impact. Trauma and stressor-related disorders occurred in response to sexual assault, however one participant also reported symptoms related to witnessing domestic violence in childhood.

Table 3: Diagnostic comorbidities in the sample.

Diagnoses	**Number of Participants** (n = 20)
1 diagnosis	**4**
Depressive disorder	
2 diagnoses	**3**
Depressive disorders (PDD, PMDD)	1
Depression and social anxiety disorder	1
Depression and GAD	1
3 diagnoses	**7**
Depressive disorders (PDD, PMDD) and eating disorder	1
Depression, GAD, and social anxiety disorder	2
Depression, social anxiety disorder, and eating disorder	2
Depression, GAD/social anxiety disorder, and substance misuse	2
4 + diagnoses	**6**
Depressive disorders (recurrent MDD, PMDD), social anxiety disorder, and eating disorder	2
Depression, GAD, social anxiety disorder, ADHD	1
Depression, GAD, social anxiety disorder, BBD	1
Depression, GAD, OCD, BDD	1
Depression, GAD, social anxiety disorder, BDD, ADHD	1

Note: subthreshold presentations were not included when considering comorbidity

3.1.2.3. Previous therapy

Participant history of previous psychological therapy is summarised in Table 4. Of the participants with no prior therapeutic input, one had discontinued therapy in the past. Past CBT of high and low intensity in various formats had targeted depression, anxiety, health problems and perfectionism. Other therapies included counselling, psychodynamic interventions, and mindfulness-based pain management.

Table 4: Past experiences of therapy in the sample

Previous therapy completed	Participants (n = 20)
No prior therapy	6
CBT	4
Counselling	2
CBT and other psychological therapy	8

3.2. Feasibility

Figure 3 shows a flowchart of the numbers of people expressing an initial interest in the study and the numbers who participated and were retained. Retention and recruitment rates suggest this is a feasible intervention to offer within an IAPT service.

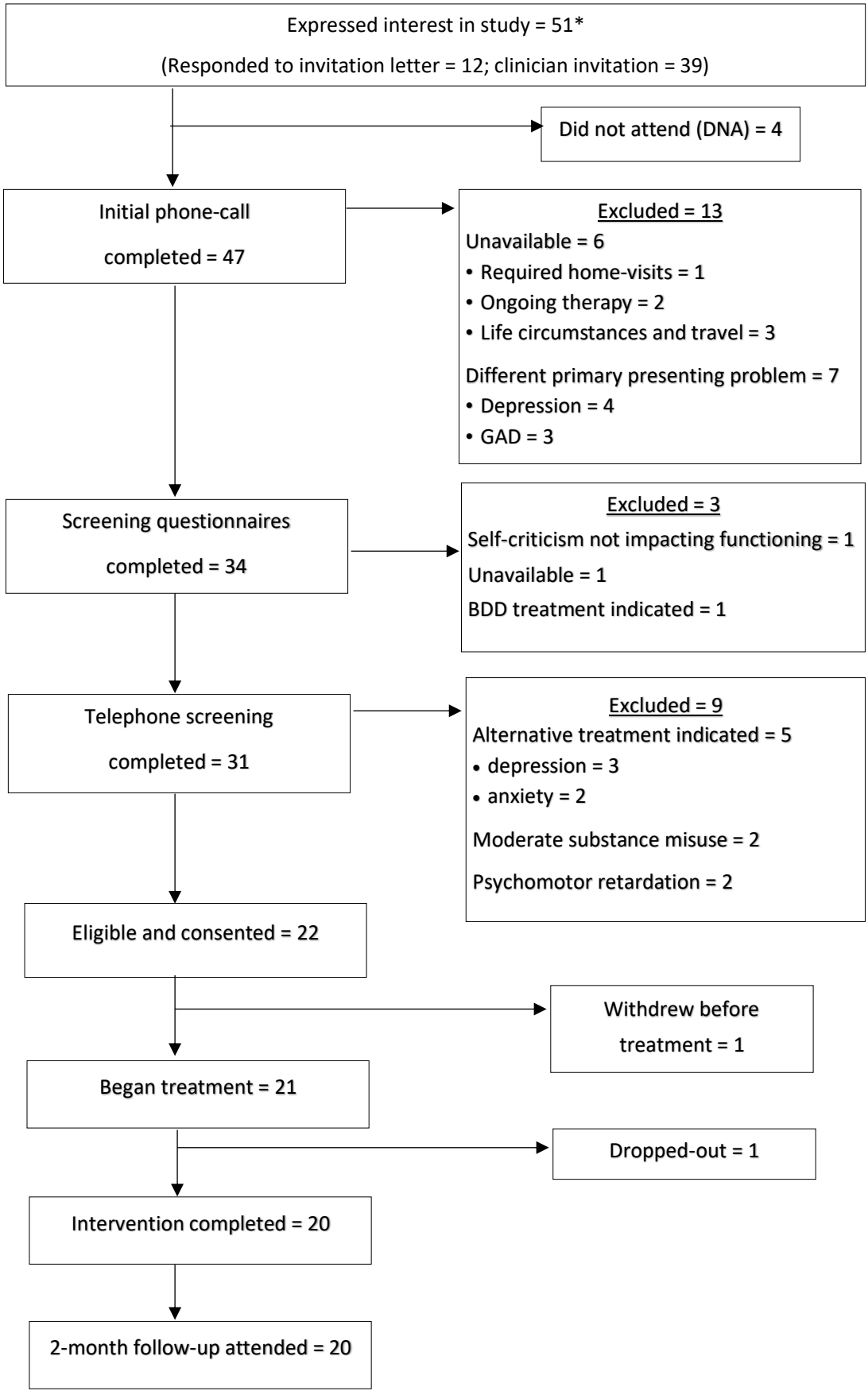
3.2.1. Recruitment

An invitation letter was sent to approximately 200 patients on the IAPT service's low-intensity CBT waiting-list; of these, 12 people responded expressing interest in participating. Clinicians also mentioned the study to patients who they were assessing or had completed treatment with, and 39 patients expressed an interest in participating. Of the 51 people who indicated an interest in the study, 31 were assessed, of which 22 (43%) were eligible and 100% of these consented to participate.

3.2.2. Retention

One person was accepted into the study but was unable to commence therapy due to new work circumstances. Another participant dropped-out after two sessions saying that they had had changes in their social circumstances and would prefer an unstructured therapy, requesting counselling instead. They found this intervention "interesting" but "too much work" at present. They said that they just wanted a space to talk and requested counselling at present but were interested to complete this therapy in the future instead.

Figure 3: Flowchart of recruitment and retention numbers



3.2.3. Eligibility criteria

Inclusion and exclusion criteria identified suitable participants, except one participant with a primary diagnosis of GAD. It emerged during treatment that her self-criticism was currently focused mainly on her anxiety. Criteria should be clarified in subsequent research to explicitly exclude participants who are mainly requesting help with self-criticism about their mental health symptoms because interventions directly targeting those difficulties would be more appropriate.

3.3. Acceptability

This section presents feedback about acceptability from session 1 ratings about pre-treatment expectations, together with patient and therapist post-therapy feedback. All participants completed the post-treatment feedback questionnaire; open-ended feedback was optional so not all respondents commented on each section. The recruitment and retention rates presented earlier are also considered indicators of acceptability.

3.3.1. Acceptability of the assessment methods

3.3.1.1. Telephone assessment

Open-ended feedback from 18 participants revealed varied experiences of the assessment. Half the participants (n=9) reported a positive experience; describing it as clear, informative, thorough and helpful, with participants feeling cared for and validated. One of these participants reported it was useful but also "emotionally exhausting". However, three participants felt assessment emotionally was "intense" but did not report on any benefits of this; and two participants found it "impersonal". Two participants said that it was 'detailed' but provided no further comments. Participants also considered it "too long" (n=3), struggled to answer the questions (n=2) and/or were unclear about the assessment's purpose (n=2). For these reasons, questionnaire survey methods were recommended by two participants. The assessor experienced the telephone screening as too long and emotionally draining when screening participants with multiple comorbidities or extensive trauma histories.

3.3.1.2. Weekly questionnaires

Of the 18 participants that provided feedback, 10 had no difficulties with online questionnaire completion and found this acceptable. However, two participants experienced recurrent technical difficulties.

Overall, participants reported that the fewer measures, adapted for the weekly time-frame, with more sensitive response categories, and qualitative components would have been helpful. Participants also wanted to know their results and discuss these with their therapist. They sometimes struggled to answer the question; and would have preferred the option to skip the questions or have open ended-comment-boxes.

3.3.2. Treatment access

Overall, participants had no difficulty attending sessions in terms of timing or location (n=15; 75%). However, five participants (25%) would have preferred evening sessions but opted for day-time sessions with a shorter waiting time. Participants found it useful having appointment reminders and regular weekly sessions. Of note, no participants requested telephone or Skype sessions, with one person specifically commenting that the face-to-face sessions were helpful.

3.3.3. Acceptability of the intervention overall

3.3.3.1. Treatment expectations

In the first session, participants gave high ratings for how logical the treatment seemed (Mean = 7.8, SD = 1.6; rated on a scale from 0 to 10, where '10' meant 'Extremely' logical). However, participants' confidence in the treatment at reducing self-criticism was lower (Mean = 2.5, SD = 0.7; rated on a scale from 0 to 5, where '5' meant 'Extremely' confident).

3.3.3.2. Acceptability of the intervention to patients

Only one person dropped out of therapy. This occurred after two sessions and he said that he would prefer counselling where he could talk about his feelings and not have between-sessions tasks. Feedback ratings about different aspects of the intervention are shown in Table 5 and summarised briefly below, along with qualitative feedback.

Feedback about therapy

All twenty treatment-completers 'agreed' or 'strongly agreed' that the intervention was useful and most would recommend the intervention to others with similar difficulties. The majority of participants agreed that therapy reduced their reduced their self-critical thinking (70%), improved coping (85%) and enhanced self-compassion (85%).

In the qualitative feedback, participants noted the value of psychoeducation, particularly the 'Three Systems' emotion regulation model and considering self-criticism as a habit that can be changed. Participants found understanding the origins of their self-criticism and validating these

responses beneficial. Obtaining practical skills to challenge self-criticism and/or developing self-compassion were highlighted by 17 participants as the most important things they gained from therapy. Participants noted that the intervention helps across a broad range of mental health problems.

Feedback about therapists

Feedback ratings indicated that nineteen participants agreed that the therapist understood their difficulties (Table 5). One participant provided neutral feedback and in their qualitative feedback said their therapist was "fine" and another noted that therapist was not as "encouraging and endearing" as hoped for. However, most patients enjoyed their interactions with their therapist (n=18). The general qualities of being "professional" and "open" were frequently mentioned. Specific compassionate therapist qualities were reported including "kind", "patient", genuinely caring, "understanding" and "validating" (n=6), with some patients reflecting such modelling and reflections facilitated developing self-compassion. A few noted that therapists helped them feel "comfortable" and "open up" (n=5), despite their typical difficulties with this (n=2).

Table 5: Post-treatment participant ratings about the intervention

Feedback question		Strongly disagree n (%)	Disagree n (%)	Neither agree or disagree n (%)	Agree n (%)	Strongly agree n (%)	Mean	SD
1.	The therapy was useful	0	0	0	11 (55%)	9 (45%)	4.45	0.51
2.	The therapy helped to reduce my self-critical thinking	0	0	6 (30%)	10 (50%)	4 (20%)	3.90	0.72
3.	The therapy helped improve my ability to cope with my self-critical thinking	0	0	3 (15%)	12 (60%)	5 (25%)	4.10	0.64
4.	The therapy helped me to improve my self-compassion	0	1 (5%)	2 (10%)	11 (55%)	6 (30%)	4.10	0.79
5.	My therapist understood my needs/ difficulties	0	0	1 (5%)	8 (40%)	11 (55%)	4.50	0.61
6.	I would recommend the intervention to other people with high levels of self-criticism	0	0	1 (5%)	7 (35%)	12 (60%)	4.55	0.60

Note: The questionnaire used a 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree or disagree, 4 = Agree, 5 = Strongly agree).

3.3.4. Acceptability of the intervention's structure

To gain more confidence and practice in techniques, and to make sessions feel less rushed, 11 participants recommended having between 7-10 sessions; four requested longer sessions and one recommended increasing either treatment duration or session length. Three participants recommending spacing out sessions to provide more time to practise the skills. However, five people found the treatment duration adequate, describing feeling 'confident' going forward with the intervention by themselves. The follow-up appointment and scope for further treatment within IAPT were viewed favourably.

The intervention's structure and content were typically well received. Participants appreciated the focused and clear structure, and the introduction of a new technique each week. However, the focused nature of the intervention meant that one participant felt that it was 'impersonal' at times and another found the structured protocol 'constraining'. One participant recommended focusing more on how to apply techniques learnt into daily life.

3.3.5. Acceptability of specific techniques within the intervention

Ratings of perceived usefulness and frequency for specific intervention tasks are shown in Tables 6 and 7. Mean ratings indicated that compassionate reframes were perceived to be the most useful technique at post-treatment and the second most useful technique at follow-up. Although used less frequently and by fewer participants, relaxation exercises were considered the most useful technique at follow-up. Taking compassionate action was the most frequently used technique during the two months post-treatment.

3.3.6. Acceptability of specific components of the intervention

3.3.6.1. Therapy booklets

The majority of participants (85%) typically read at least 70% of each session's booklet (Figure 4). Fifteen people provided qualitative feedback about booklets and 12 commented that they were beneficial (80%). Due to their concentration problems, one person only found them helpful "sometimes" and benefited more from the audio-recordings recordings. Three participants requested electronic versions. Specifically, participants reported the booklets were informative (n=3), supportive (n=2), clear, well-written and accessible (n=4). However, one participant felt the "odd politically correct" language seemed "convoluted at times".

Table 6: Ratings of the usefulness of specific intervention techniques, provided at the end of treatment and the 2-month follow-up

	Technique		Not at all (0) n (%)	A little (1) n (%)	Somewhat (2) n (%)	Quite a lot (2) n (%)	Very much (4) n (%)	Didn't try (n/a) n (%)	Mean	Standard deviation
1.	Compassionate reframe/ thought record	Post-treatment	0	0	5 (25%)	4 (20%)	11 (55%)	0	3.30	0.86
		Follow-up	0	2 (10%)	3 (15%)	5 (25%)	9 (45%)	1 (5%)	3.11	1.05
2.	Decentring from self-critical thoughts	Post-treatment	0	3 (15%)	3 (15%)	5 (25%)	9 (45%)	0	3.00	1.12
		Follow-up	0	2 (10%)	5 (25%)	8 (40%)	5 (25%)	0	2.80	0.95
3.	Changing the situation in which self-criticism occurs	Post-treatment	1 (5%)	3 (15%)	4 (20%)	7 (35%)	4 (20%)	1 (5%)	2.53	1.17
		Follow-up	0	2 (10%)	5 (25%)	4 (20%)	6 (30%)	3 (15%)	2.82	1.07
4.	Relaxation exercises	Post-treatment	0	5 (25%)	3 (15%)	6 (30%)	6 (30%)	0	2.65	1.18
		Follow-up	0	1 (5%)	2 (10%)	4 (20%)	8 (40%)	5 (25%)	3.29	0.96
5.	'Compassionate other' imagery	Post-treatment	2 (10%)	4 (20%)	4 (20%)	5 (25%)	5 (25%)	0	2.35	1.35
		Follow-up	4 (20%)	2 (10%)	1 (5%)	4 (20%)	4 (20%)	5 (25%)	2.22	1.62
6.	Loving-kindness meditation	Post-treatment	1 (5%)	5 (25%)	8 (40%)	5 (25%)	0	1 (5%)	1.89	0.88
		Follow-up	1 (5%)	2 (10%)	5 (25%)	1 (5%)	1 (5%)	10	1.90	1.10
7.	'Compassionate self' *(imagining your compassionate self and / or guiding your day with self-compassion*)	Post-treatment	0	5 (25%)	4 (20%)	6 (30%)	5 (25%)	0	2.55	1.15
		Follow-up	3 (15%)	4 (20%)	4 (20%)	2 (10%)	5 (25%)	2 (10%)	2.11	1.49
8.	Compassionate actions	Post-treatment	2 (10%)	2 (10%)	5 (25%)	7 (35%)	4 (20%)	0	2.45	1.23
		Follow-up	0	2 (10%)	2 (10%)	7 (35%)	7 (35%)	2 (10%)	3.06	1 (5%)

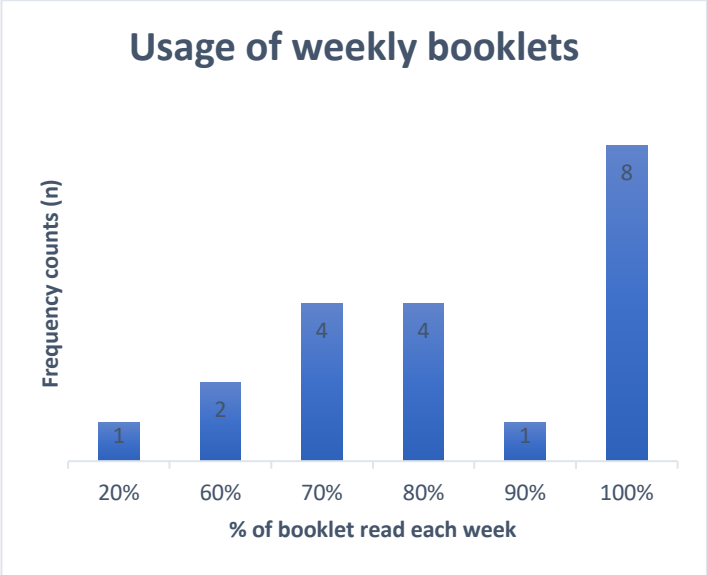
Note: The questionnaire used a 5-point Likert scale ('0' = Not at all to '4' = Very much).

Table 7: Ratings of the frequency of use of specific intervention techniques since the end of treatment, provided at the 2-month follow-up

	Technique	Not at all (0) n	Once or twice (1) n	Several times (2) n	Once a week (3) n	Several times a week (4) n	Every day (5) n	Mean	Standard deviation
1.	Compassionate reframe/ thought record	1	3	0	6	4	6	3.35	1.57
2.	Decentring from self-critical thoughts	0	2	3	6	6	3	3.23	1.20
3.	Changing the situation in which self-criticism occurs	2	5	0	6	2	5	2.80	1.77
4.	Relaxation exercises	5	2	2	3	3	5	2.60	1.98
5.	'Compassionate other' imagery	5	3	6	1	4	1	1.95	1.61
6.	Loving-kindness meditation	6	7	3	1	1	2	1.05	1.32
7.	'Compassionate self' – imagery	10	4	2	3	1	0	1.50	1.61
8.	'Compassionate self' – *guiding your day with self-compassion*	8	3	2	2	4	1	1.70	1.78
9.	Compassionate actions	2	1	2	3	6	6	3.40	1.64

Note: The questionnaire used a 6-point Likert scale ('0' = Not at all to '5' = Every day).

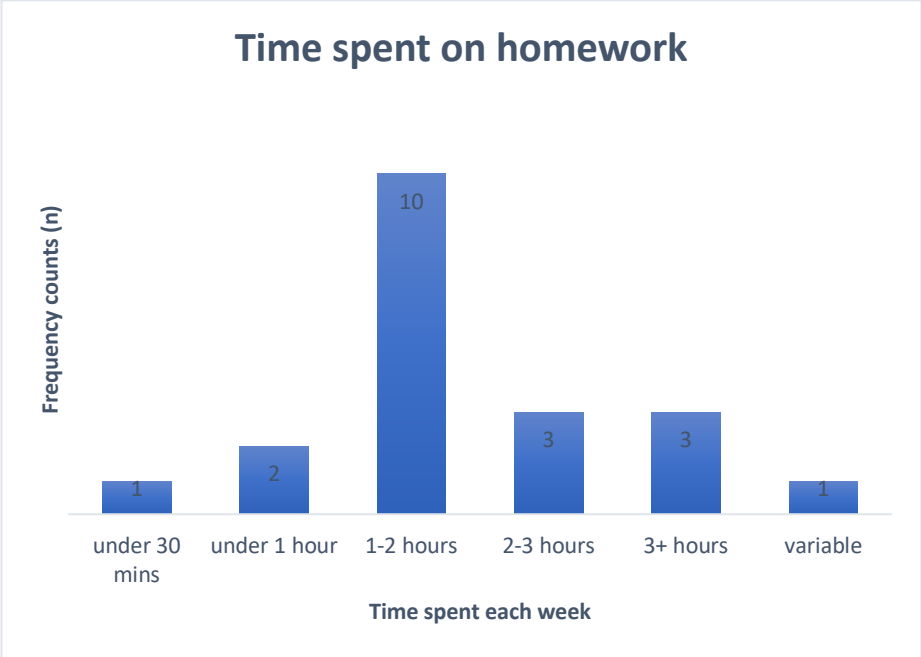
Figure 4: Percentage of the weekly booklet read by participants on average



3.3.6.2. Homework

Participants reported that they completed homework fairly consistently. Half the participants spent one-to-two hours each week on homework tasks, which included reading the booklets (Figure 5).

Figure 5: Average time spent on homework each week



Note: One participant's weekly homework time varied from 15 minutes to 2 hours, described above as 'variable'.

3.4. Feedback from therapists

The intervention was well received by the trial therapists, who were all new to this type of approach. They enjoyed learning about this approach and delivering the intervention and reported that participation in the trial was an interesting and positive experience overall. They did, however, find the protocol more restrictive than treatment-as-usual in IAPT, which they believed impacted adversely on outcomes for patients with more complex presentations who would have benefited from more sessions and potentially the inclusion of specific CBT modules to address comorbidities – for example, stooge experiments for social anxiety, core belief modification, and worry management techniques. Therapists felt that most clients engaged well with the approach effective, with all patients benefiting in some ways. They highlighted the 'Three Systems Model', psychoeducation component as particularly engaging and useful for participants. All therapists experienced supervision as helpful and of high quality. One therapist recommended additional training as all therapists were inexperienced in CFT. Two of the therapists commented that the thorough assessment process was helpful.

Overall, therapists reported that the intervention seemed well structured however they recommended a longer, eight-session intervention rather than six sessions. Therapists felt that formulation in session 1, as well as sessions 3-5 felt rushed. This was attributed to a packed agenda, limited experience delivering CFT, and a large proportion of complex clients. They felt that more time would enable a more flexible and collaborative approach, which is likely to be better received by clients. They recommended removing 'Loving-Kindness meditation' and 'guiding the day with self-compassion' or allocating more time to these techniques. Another suggestion was to combine 'compassionate actions' with 'changing the situation', which are both directed at behavioural changes; and to have a seven-session protocol, allowing more time to review techniques from session 5. Therapists agreed that tapering sessions would be useful to give participants more time to practise techniques and develop confidence using these.

Therapists requested that the protocol is elaborated, including the rationale and delivery of specific interventions. Therapists reported that the booklets were user-friendly. One therapist did not like the wording for the imagery exercises but found them acceptable after slightly altering the wording. Therapists struggled at times with the trial paperwork and encountered technical difficulties in using the relaxation audios and online research questionnaires.

3.5. Changes in self-criticism and other outcomes

3.5.1. Therapist effects

Patient change scores for each of the four therapists are shown in Appendix 9. No systematic differences appeared between therapists.

3.5.2. Effects of variations in duration of baseline, treatment and follow-up

Linear regressions indicated that 'baseline duration' (M=38.1 days; SD=23.8 days) and 'treatment duration' (M=52.7 days; SD=13.5 days) did not significantly predict changes at post-treatment or follow-up. Follow-up duration (M=67.9 days; SD = 13.1 days) did not predict changes in scores during the follow-up period (Appendix 10).

3.6. Changes in primary and secondary outcomes, and process measures

This section presents the results of repeated measures ANOVAs investigating changes in the outcome measures over time, which were followed by planned pairwise comparisons. T-tests comparing the magnitude of changes during baseline to changes after treatment are also summarised. For individual scores at each time point, see Appendix 7.

3.6.1. Primary outcome measures

On the SCRS, there were no significant 'pre-treatment changes' (screening to pre-treatment baseline) and pre-treatment changes were significantly smaller than 'post-treatment changes' (pre- to post-treatment) changes, $t(1,19)=3.21$, p=.005; and 'follow-up changes' (pre-treatment to follow-up), $t(1,19)=3.92$, p=.001. Compared to pre-treatment, all measures of self-criticism were significantly lower at post-treatment and follow-up. All measures except the FSCRS-IS also changed significantly between post-treatment and follow-up (Table 8 for results).

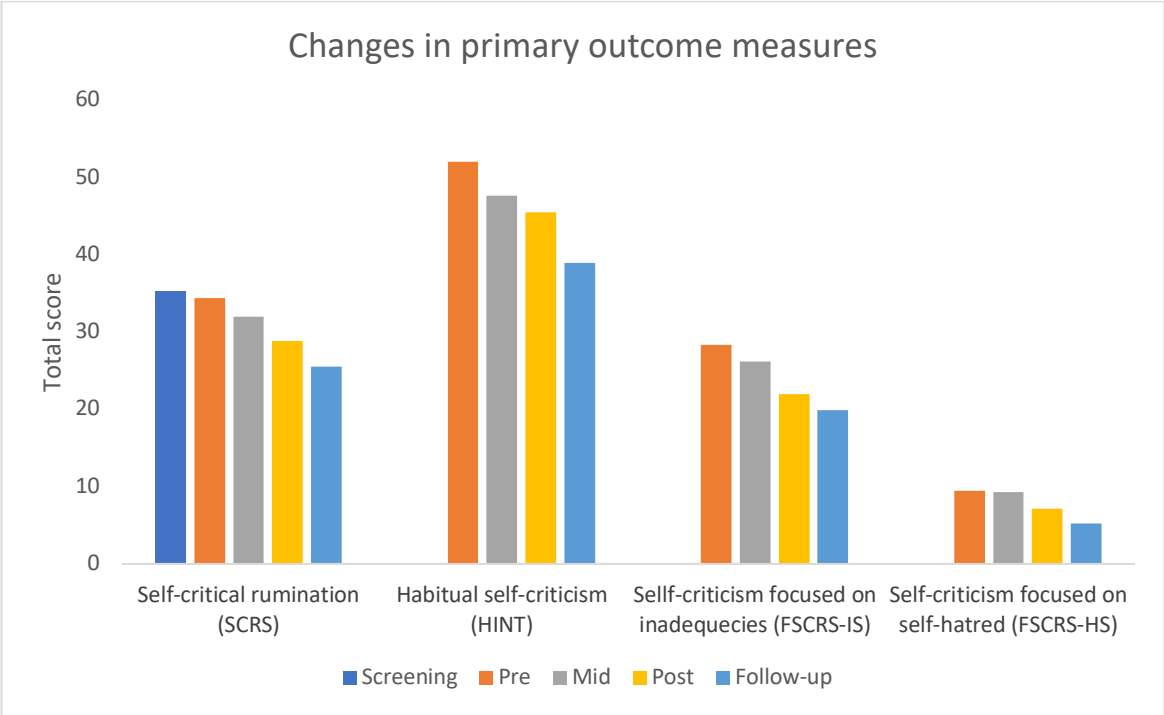


Figure 6: Changes over time in the primary outcome measures (mean total scores)

Table 8: Primary outcome measures: Descriptive statistics and results of ANOVAs and planned comparisons

Measure	**Time-point**					***ANOVA*** *(results and effect sizes 'η^2')*			**Planned contrasts: *t*-tests** ('*p*' values and effect sizes '*d*')							
	Scree-ning	**Pre**	**Mid**	**Post**	**Follow-up**				**Pre-treatment changes**		**Post-treatment changes**		**Follow-up changes**		**Follow-up only changes**	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	*F*(df)	*p*	η^2	p	d	p	d	p	d	p	d
SCRS	35.25 (3.96)	34.35 (4.56)	31.95 (5.11)	28.80 (6.42)	25.55 (7.94)	*22.00* (1.78, 33.85)	<.0001	.54	*.064*	-.23	.0002	-1.22	<.0001	-1.93	.009	-.41
HINT		52.00 (6.13)	47.60 (6.38)	45.45 (7.34)	38.95 (9.51)	22.40 (1.96, 37.19)	<.0001	.54			.003	-1.07	<.0001	-1.75	<.0001	-.68
FSCRS-IS		28.35 (4.93)	26.20 (7.30)	21.95 (7.19)	19.90 (8.81)	11.18 (2.10,39.71)	≤.0001	.37			.0004	-1.30	.001	-1.71	.17	-.23
FSCRS-HS		9.45 (4.41)	9.25 (5.33)	7.15 (4.78)	5.25 (4.41)	9.16 (3,57)	<.0001	.33			.043	-.52	.001	-.95	.008	-.43

Note: SCRS – Self-Critical Rumination Scale; HINT – Habitual Index of Negative Thinking; FSCRS-IS – Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) - Insecure Self subscale; FSCRS-HS – Hated Self subscale.

3.6.2. Secondary outcomes

Depression, anxiety and functional impairment scores were significantly lower at post-treatment and follow-up than at the pre-treatment baseline; whereas self-esteem was significantly higher. Self-esteem increased significantly between post-treatment and follow-up, however there were no changes on the other measures (Table 9 for results). At all time-points, higher levels of impairment from self-criticism were reported in the domains of work, social leisure activities, and relationships as compared to home management and private leisure activities (Appendix 11).

There were no significant differences in the magnitude of pre-treatment and post-treatment changes for depression, $t(1,19) = 1.76$, p=.10; for anxiety, $t(1,19) = .13$, p=.90; or functional impairment, $t(1,19) = .46$, p=.65. By follow-up, significantly larger improvements were observed in depression compared to pre-treatment changes $t(1,19) = 2.21$, p=.04. However, follow-up and pre-treatment changes remained of similar magnitude for anxiety, $t(1,19) = .51$, p=.62; and functional impairment, $t(1,19) = 1.11$, p=.28.

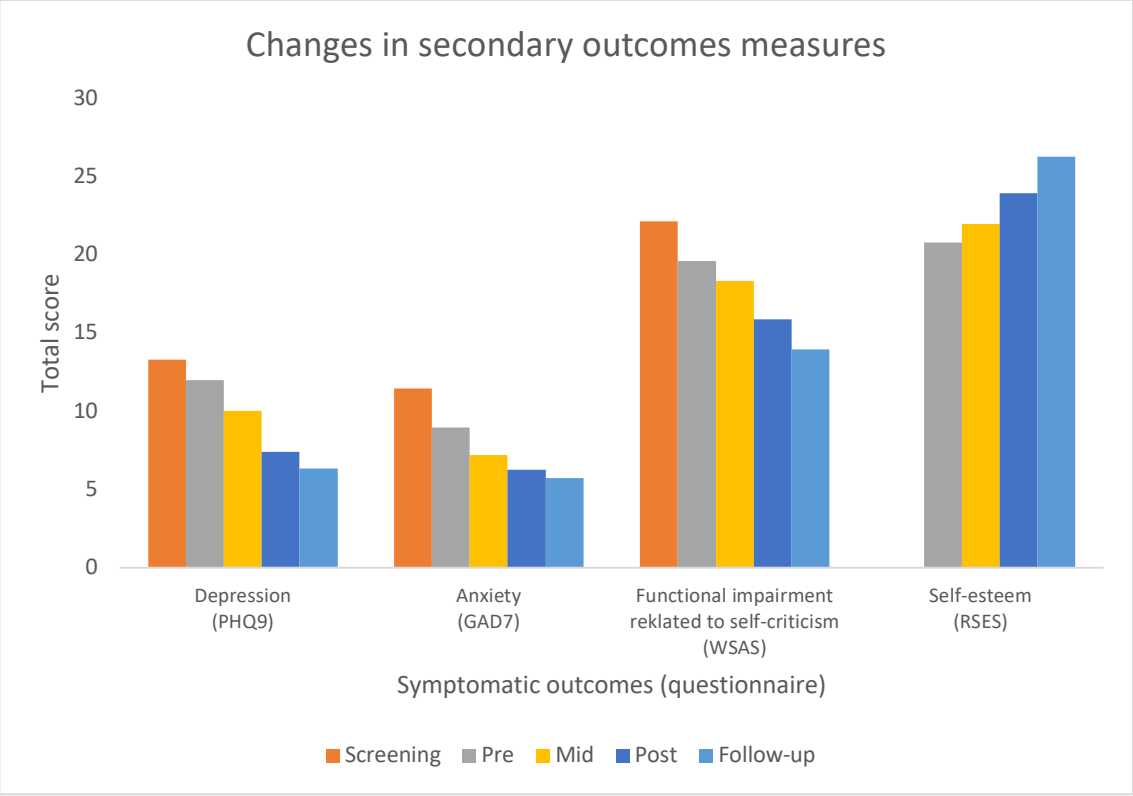


Figure 7: Changes over time in the secondary outcome measures (mean total scores)

Table 9: Secondary outcome measures: Descriptive statistics and results of ANOVAs and planned comparisons

Measure	**Time-point**					***ANOVA*** *(results and effect sizes 'η^2')*			**Planned contrasts: *t*-tests** ('*p*' values and effect sizes '*d*')							
	Screening	**Pre**	**Mid**	**Post**	**Follow -up**				**Pre-treatment changes**		**Post-treatment changes**		**Follow-up changes**		**Follow-up only changes**	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	*F*(1, 19)	*p*	η^2	p	d	p	d	p	d	p	d
PHQ9	13.30 (4.51)	12.00 (5.52)	10.05 (5.68)	7.40 (5.50)	6.35 (4.79)	19.12	<.0001	.50	.205	-.29	.0004	-.83	<.0001	-1.02	.177	-.22
GAD7	11.45 (4.71)	8.95 (5.25)	7.20 (4.29)	6.25 (4.90)	5.75 (465)	13.69 (1.90, 36.06)	<.0001	.42	.001	-.53	.035	-.51	.008	-.61	.119	-.11
WSAS	22.15 (5.82)	19.60 (7.14)	18.35 (7.90)	15.90 (9.24)	13.95 (8.88)	9.05 (2.42, 46)	<.0001	.32	.036	-.44	.047	-.52	.013	0.79	.154	-.22
RSES		20.8 (4.03)	22.00 (4.66)	23.95 (4.31)	26.30 (4.59)	14.79 (2.08, 39.52)	<.0001	.44			.008	.78	≤.0001	1.36	.0007	.51

PHQ9 – Patient Health Questionnaire; GAD7 – Generalised Anxiety Disorder questionnaire; WSAS – Work and Social Adjustment Scale; RSES – Rosenberg Self-Esteem Scale.

3.6.3. Process measures

Self-compassion, ability to reassure oneself and unhelpful beliefs about emotions all showed significant improvements at follow-up and at post-treatment, relative to baseline (Table 10). Additionally, significant improvements at follow-up occurred in self-esteem, self-compassion and the ability to reassure oneself.

Table 10: Process measures: Descriptive statistics and results of ANOVAs and planned comparisons

Measure	**Time-point**				**ANOVA** results and effect sizes (η^2)			**Planned contrasts: *t*-tests** (‘*p*’ values and effect sizes ‘*d*’)					
	Pre	**Mid**	**Post**	**Follow-up**				**Post-treatment changes**		**Follow-up changes**		**Follow-up only changes**	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	*F*(3, 57)	*p*	η^2	p	d	p	d	p	d
SCS	55.00 (11.06)	59.30 (13.44)	67.85 (15.33)	75.25 (17.50)	22.09 (3,57)	<.0001	.54	.0004	1.16	<.0001	1.83	.008	.42
FSCRS-RS	6.90 (4.52)	8.50 (4.63)	12.45 (5.91)	15.20 (6.33)	20.30 (1.88,35.78)	<.0001	.52	.001	1.23	<.0001	1.84	.003	.43
BES	46.15 (9.76)	43.95 (11.72)	37.40 (12.38)	34.00 (14.43)	10.04 (2.20, 41.77)	<.0001	.35	.002	-.90	.002	-1.24	.111	-.24

SCS – Self-Compassion Scale; FSCRS-RS – Forms of Self-Criticizing/Attacking and Self-Reassuring Scale – Reassured Self subscale; BES – Beliefs about Emotions Scale.

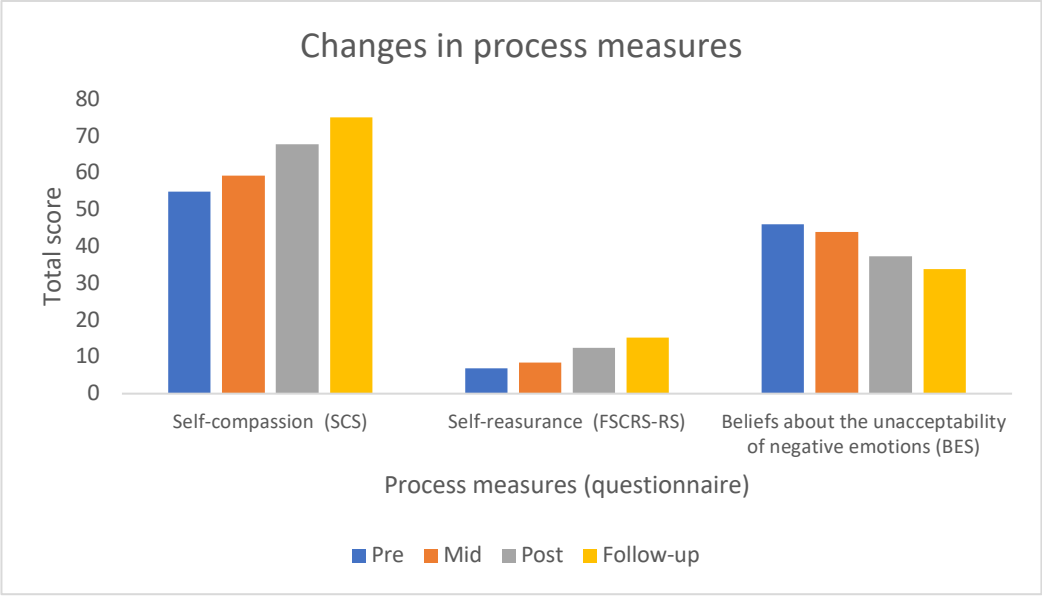


Figure 8: Changes over time in the process measures (mean total scores)

3.6.4. Associations between measures

Table 11 presents correlations between changes scores on the post-treatment outcome measures. All variables correlated in the expected direction. There were moderate to strong correlations between changes in the measures of self-criticism – HINT, SCRS, FSCRS-IS and FSCRS-HS (*rs*=.56 to .81).

Reductions in self-criticism correlated strongly with increased self-compassion (*rs*= -.50 to -.85). Changes in self-criticism correlated to a lesser extent with reduced unhelpful beliefs about negative emotions (*rs*=.48 to .70); and were weakly correlated with the ability to self-reassure and resist self-attacking (*rs*= -.03 to -.41). This suggests that self-compassion may be an important mechanism of change.

3.7. Need for further treatment

The majority of participants (n=12; 60%) were discharged from IAPT after the follow-up. The remainder sought further therapy – two commenced treatment before the follow-up and six began therapy afterwards. They requested interventions focusing on depression, generalised anxiety, low self-esteem, chronic pain, and PTSD.

Table 11: Pearson and Spearman correlations between post-treatment changes (Session 6 – Session 1) on all measures

	SCRS Mean (SD)	**HINT** Mean (SD)	**FSCRS-IS** Mean (SD)	**FSCRS-HS** Mean (SD)	**PHQ9** Mean (SD)	**GAD7** Mean (SD)	**WSAS** Mean (SD)	**RSES** Mean (SD)	**SCS** Mean (SD)	**FSCRS-RS**[I] Mean (SD)	**BES** Mean (SD)
SCRS	**-5.55 (5.48)**										
HINT	.59**	**-4.45 (12.19)**									
FSCRS-IS	.76***	.68***	**-6.40 (6.75)**								
FSCRS-HS	.56**	.69***	.81***	**-2.30 (4.75)**							
PHQ9	.62**	.68***	.63**	.79***	**-4.60 (4.83)**						
GAD7	.67***	.67***	.62**	.67***	.83***	**-2.70 (5.32)**					
WSAS	.73***	.46*	.58**	.67***	.73***	.70***	**-3.70 (7.80)**				
RSES	-.76***	-.63**	-.83***	-.74***	-.64**	-.68***	-.64**	**3.15 (4.73)**			
SCS	-.62**	-.50*	-.85***	-.69***	-.60**	-.61**	-.47*	.78***	**12.85 (13.41)**		
FSCRS-RS[I]	-.41	-.03	-.29	-.21	-.18	-.40*	-.16	.61**	-.07	**5.55 (6.35)**	
BES	.52*	.48*	.70***	.55**	.42	.38	.40	-.77***	-.80***	.36	**-8.75 (11.09)**

*Notes: [I]Spearman's rho correlations (n=19); *p< .05, **p≤ .01, ***p≤ .001;* SCRS – Self-Critical Rumination Scale; HINT – Habitual Index of Negative Thinking; FSCRS-IS – Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) - Insecure Self subscale; FSCRS-HS – Hated Self subscale. PHQ9- Patient Health Questionnaire; GAD7 – Generalised Anxiety Disorder questionnaire; WSAS – Work and Social Adjustment Scale; RSES – Rosenberg Self-Esteem Scale; BES – Beliefs about Emotions Scale; SCS – Self-Compassion Scale; FSCRS-RS – Forms of Self-Criticizing/Attacking and Self-Reassuring Scale – Reassured Self subscale.

4. Discussion

4.1. Overview

This six-session compassion-based face-to-face intervention for self-criticism was adapted from previous research by Rose et al. (2018) with students, which had recommended future research into clinical populations. The current study found the intervention feasible to deliver within a primary mental healthcare service and acceptable to the patients and therapists. Significant improvements in self-criticism and related problems were observed after the intervention; changes in self-criticism were associated with improvements in self-compassion and unhelpful beliefs about negative emotions, but not self-reassurance. These changes were either maintained or showed significant improvements between post-treatment and two-month follow-up.

4.2. Feasibility findings and recommendations

4.2.1. Feasibility of providing this intervention

The screening process identified 20 eligible primary mental health patients over a 6-month period from an IAPT service that typically has an intake of approximately 570 patients per month. All eligible patients took up the offer of this brief intervention for self-criticism. High uptake rates are likely to have been impacted by the shorter waiting-time for this face-to-face intervention compared to other interventions within IAPT and the opportunity to access a high-intensity intervention without accessing a low-intensity intervention first. Recruiting therapists to take part in this study was straightforward which supports the feasibility of running a larger trial in the future if therapists need to be recruited from existing IAPT teams.

The retention rates were high and comparable to those of the previous study of a similar intervention with self-critical students (Rose et al., 2018) and a CFT group for self-criticism in patients with chronic and severe psychiatric problems (Gilbert & Procter, 2006). Twenty participants completed all six sessions of the intervention and the follow-up. Only one participant who had originally agreed to take part did not begin the study and one dropped-out after two sessions.

The sample was predominantly female. This is consistent with most previous studies of interventions for self-criticism in clinical populations (Berlin, 1985; de Oliviera et al., 2012; Shahar et al., 2012) and higher mean levels of self-criticism in females than males (López, Sanderman, Ranchor & Schroevers, 2018; Yarnell et al., 2015).

4.2.2. Feasibility of conducting another research study

Of the 34 patients screened for this study, 59% were considered suitable for this intervention. There were indications that the inclusion / exclusion criteria should be refined in future studies to reduce unsuitable referrals. For one individual that had requested help for self-criticism, it transpired early in treatment that self-criticism was not the primary presenting problem and was unlikely to be a key maintaining factor in their presenting problem. Although this person found the intervention useful, they later sought treatment for anxiety. Therefore, the assessment guidelines were modified to detect such individuals and offer them more relevant alternatives within IAPT, such as disorder-specific CBT.

Potentially suitable participants may have been missed because a small number IAPT therapists generated most of the referrals. Meeting the clinical team regularly may have helped therapists to remember to mention the study to their patients. Moreover, only one wave of invitation letters were sent; additional waves of invitation letters may have helped to identify patients who had been missed as potentially suitable participants by the assessing therapist.

Interventions targeting self-criticism have not typically reported cut-off scores for eligibility criteria. However, this study and the previous non-clinical trial (Rose et al., 2018) adopted functional impairment due to self-criticism (WSAS scores over 9) as an inclusion criterion. Some other studies adopted severity of self-criticism as eligibility criteria. For example, Shahar et al. (2012) used FSCRS-IS or FSCRS-HS scores greater than 25 or 8, respectively; i.e. one standard deviation above the FSCRS-RS norms established in female students (Gilbert et al., 2004). Falconer et al. (2014) adopted a lower threshold indicated by FSCRS-IS scores above 20. Future studies could combine eligibility criteria adopted by Shahar et al. (2012) and the present study for conservative yet inclusive sample selection to select people with high self-criticism or related functional impairment.

4.3. Acceptability findings and recommendations

4.3.1. Acceptability of the assessment and intervention overall

The assessment methods were generally viewed as acceptable. There was mixed feedback about the initial assessment with some participants commenting positively on the detailed nature and others finding it too long. IAPT services require outcome collection at every session but based

on participant feedback, it is recommended that the number of questionnaires is reduced in future studies.

The therapeutic approach was also acceptable. Prior to treatment, patients reported that they understood the rationale of treatment. During the course of treatment, participants reported that they valued individual sessions. Post-intervention, participants reported that the intervention was highly acceptable, indicating that it was useful in improving their self-criticism, self-compassion, and ability to cope with the negative effects of self-criticism. High levels of homework completion indicated that participants were engaged well with the treatment. These findings concur with participant feedback about the acceptability of other CFT interventions that targeted self-criticism (Gilbert & Procter, 2006; Rose et al., 2018).

Some participants expressed a preference for longer or fortnightly sessions offered outside working-hours, which was consistent to feedback by participants in the previous study by Rose et al. (2018). However, in the present study, 11 participants (55%) would have liked to have additional sessions as compared to only one participant in the previous study. While Rose et al. (2018) offered an assessment session and six treatment sessions within a student population, it is likely that more sessions are required in clinical populations, as indicated by higher levels of self-criticism, functional impairment and other indications of clinical distress reported by this sample. Feedback also indicated that additional sessions would help to consolidate techniques learnt and allow more time to practise techniques in session. Six participants were referred for further treatment for a clinical disorder such as depression or anxiety. It is possible that improvements in self-criticism and self-compassion may help facilitate further engagement with services for the treatment of existing comorbidities. For example, a participant who stated that they did not want to seek trauma-focused therapy, requested this support after completing the current intervention.

Between-session homework completion was high. It is likely that this was due to an emphasis on the rationale for homework and in the importance of replacing self-criticism with another habit through repeated practice. As expected, the more frequently a technique was practised, the more useful it was perceived to be. Although the impact of practice and perceived utility on treatment effectiveness was not statistically analysed, these findings reflect the importance of practising techniques between sessions and post-treatment.

Therapists reported that this intervention was highly acceptable and beneficial for participants. Therapists reported that patients generally understood CFT models intuitively and found them

validating. Similar to participants, therapists reported that additional sessions might be helpful for some patients to practise techniques. For example, therapists did not find that there was time to practise loving-kindness meditation within the session.

It should be noted that most participants were graduates or currently in full-time education and/or employed. Future studies should evaluate the acceptability of this intervention for a less educated and more functionally impaired sample, especially given the high requirements of reading booklets and completing written homework.

4.3.2. Acceptability of specific techniques within the intervention

Consistent with Rose et al. (2018), compassionate reframes and decentring were rated as the most useful techniques at post-treatment, suggesting that these are key components of this intervention. In comparison to Rose et al. (2018), loving-kindness meditation was infrequently used and rated as less useful by patients in the present study. This is not surprising as therapists reported that they did not have time to practise this in sessions in the current study. 'Compassionate self' imagery was used more frequently by the participants in the current study than by participants in Rose et al. (2018). In both studies, compassionate actions, reframes, and decentring were reported as the most commonly used techniques at follow-up, which suggests that an equal emphasis on cognitive and behavioural techniques is important. It appears that interventions that were expected to be the most important and hence introduced earlier in treatment were also perceived to be more useful and continued to be used more frequently than other techniques, even at follow-up. Techniques allocated less time in the protocol (for example, loving-kindness meditation and guiding the day with self-compassion) were used less frequently.

4.4. Reductions in self-criticism and other outcomes

4.4.1. Reductions in self-criticism

By post-treatment, there were significantly lower levels of self-criticism (HINT, FSCRS-IS, FSCRS-HS, and SCRS) compared to pre-treatment levels. The effect sizes for post-treatment changes were medium to large, with large effect sizes observed for follow-up changes on all primary outcomes. The smallest effect sizes were observed in the FSCRS-HS; however, scores on that scale were lower at pre-treatment and there may have been less room for improvement. Other research investigating interventions for self-criticism in clinical populations with similar pre-treatment FSCRS-HS scores (Judge et al., 2012; Shahar et al., 2012) also found that this self-punishing form of self-criticism was difficult to change. The magnitude of change in self-criticism

between pre- and post-treatment was significantly larger than between screening and pre-treatment. Moreover, changes during baseline measured using the SCRS were non-significant, and any changes that occurred were smaller than post-treatment changes. These results provide preliminary evidence supporting the possible effectiveness of the compassion-focused intervention in reducing self-criticism.

Self-criticism (HINT, FSCRS-HS, and SCRS) improved significantly after therapy finished with small to medium effect sizes between post-treatment and two-month follow-up. This indicates that treatment effects may have continued to grow, potentially because patients' skills developed and generalised through repeated usage. The largest improvements in self-criticism at post-treatment were found for the FSCRS-IS, however further significant improvements did not occur by follow-up. This suggests self-criticism focused on inadequacies improves faster than more self-punishing, habitual, or ruminative self-criticism.

Patients in the current study had slightly higher levels of self-criticism at pre-treatment baseline, post-treatment and follow-up than the non-clinical student sample used by Rose et al. (2018). Effect sizes for change compared to baseline were slightly smaller in the current study compared to the previous study on the SCRS at post-treatment (d= -1.22 and d= -1.60, respectively) and follow-up (d= -1.93 and d= -2.22). Conversely, effect sizes for the HINT were slightly larger in the current study than in the previous study at post-treatment (d= -1.07 and d= -.77) and follow-up (d= -1.75 and d= -1.37). Given that the patient group had significantly higher levels of depression, anxiety and other comorbid problems that may interfere with therapy progress, it is encouraging to see that effect sizes for reductions in self-criticism were similar across the two studies.

4.4.2. Reductions in secondary outcomes

Post-treatment, there were significant improvements in depression, anxiety, functional impact of self-criticism, and self-esteem with medium to large effect sizes. Cognitive-behavioural theoretical models suggest that self-criticism is a maintaining factor for both depression (Beck, Rush, Shaw & Emery, 1979) and low self-esteem (Fennell, 1997). Within the CFT approach self-criticism is considered a key maintaining factors of both psychiatric distress and low self-esteem (Gilbert, 2014; Gilbert & Procter, 2006). Therefore, as expected reductions in self-criticism correlated with improvements in depression (*rs*= .62 to .79), anxiety (*rs*= .62 to .67), daily functioning, and self-esteem (*rs* = -.63 to -.83).

During the baseline period there were significant reductions in anxiety and functional impairment, which may reflect natural fluctuations over time or spontaneous recovery. It is also possible that patients felt reassured knowing therapy would start soon. Some participants reported finding the telephone assessment helpful, which could have also contributed to improvements. Having their difficulties validated and being offered treatment for self-criticism for the first time might have helped patients to be more accepting and compassionate to their own needs.

Potentially as a result of the pre-treatment changes, the reductions in depression, anxiety, and functional impairment between pre- and post-treatment were not statistically larger than the change over the baseline period. It should be noted that the small sample size may make it difficult to detect small yet clinically significant changes and in the case of anxiety and functional impairment, it is likely that with a larger sample size the reductions would have been significant. Finally, it should be noted that WSAS baseline period scores should be interpreted with caution because they had low internal consistency (screening α=.47; pre-treatment α=.57).

4.4.3. Reductions in process measures

There were significant increases in self-compassion, self-reassurance and unhelpful beliefs about emotions at post-treatment with large effect sizes for changes. The effect sizes observed were smaller than the previous study with students (Rose et al., 2018) at both post-treatment (SCS d=1.16 and 1.67, BES d= -.90 and -1.01, respectively) and follow-up (SCS d=1.83 and 1.97, BES d= -1.24 and -1.39 respectively); the FSCRS was not used in the student trial. Patients reported lower self-compassion and greater unhelpful beliefs about emotions at pre-treatment than the previous student sample and therefore may need longer to change such styles of self-relating and beliefs. Indeed, between treatment completion and follow-up, there were additional significant gains of a small effect size in the SCS and FSRS-RS, but not the BES; the authors of the previous study reported that changes on the SCS and BES were not significant. However, the patient sample had slightly lower self-compassion and more unhelpful beliefs at post-treatment than the student sample; additional input may help to improve these beliefs and attitudes further for the current sample.

4.4.3.1. Potential mechanisms of change

As predicted, changes in self-compassion, the hypothesised key mechanism of change in this intervention, demonstrated a medium to strong inverse relationship with changes in self-criticism at post-treatment, *r*s= -.50 to -.85. Reductions in a measure of unhelpful beliefs about emotions, which were also addressed in sessions, showed small to medium associations with

reductions self-criticism (*r*s = .48 to .70). Only small non-significant correlations were observed between improvements in self-reassurance and self-criticism (FSCRS-IS r= -.29, FSCRS-HS r= -.21, HINT r= -.03, and SCRS r= -.41). Observational studies have found medium-sized correlations for the FSCRS-RS with the FSCRS-IS, FSCRS-HS and HINT (Gilbert et al., 2004; Thew et al., 2017). These findings indicate that it is possible to not talk harshly to yourself without necessarily talking kindly to yourself instead.

Of note, there is debate in the literature about the psychometric properties of the SCS, which appears to be the only validated measure of self-compassion currently available. Factor analytic studies of the SCS have found that self-compassion comprises of a positive and negative factor; the latter has been explained as high self-criticism (Costa, Marôco, Pinto-Gouveia, Ferreria & Castilho, 2016; López et al., 2015). Future research should try to include a measure of self-compassion that does not include subscales that may be assessing self-criticism.

It has been suggested that an important mechanism maintaining self-criticism are positive metacognitive beliefs about the importance of self-critical rumination. Unfortunately, a validated self-report questionnaire measuring these (Kolubinski, Nikčević, Lawrence & Spada, 2017) was only released after the study commenced. Future research could investigate this as another mechanism of change.

4.5. Implications for the treatment of self-criticism

The findings of this study, which evaluated a six-session compassion-based intervention for self-criticism in patients from an IAPT service, extend those reported by Rose et al. (2018) using the same intervention in university students. These findings suggest that this brief intervention is feasible, acceptable and useful in reducing self-criticism in the general public and primary mental healthcare populations.

This study is one of the first to evaluate a CFT intervention specifically targeting self-criticism in psychiatric populations using an individual rather than group modality. Gilbert and Irons (2004) investigated a four-week group with one-month follow-up focused on compassionate imagery to reduce self-criticism in nine participants recruited from a self-help depression group. The authors reported improvements in self-criticism and self-compassion (other pre- and post-treatment outcome measures were not used); however, it is not possible to compare findings as validated measures of self-criticism were not used. The improvements in depression, anxiety, functional impairment, and self-esteem along with the positive qualitative feedback in this study

indicate that this CFT intervention is a promising transdiagnostic approach for highly self-critical patients with emotional disorders. However, while the evidence suggested that this intervention was helpful for mood and self-esteem, the findings were weaker regarding improvements in anxiety and functional impairment.

Gilbert and Procter (2006) piloted an uncontrolled CFT-based Compassionate Mind Training group (consisting of twelve two-hour sessions with two-month follow-up) targeting shame and self-criticism in nine chronic psychiatric day-care NHS patients with high self-criticism. Compared to the current sample, their patients had higher pre-treatment FSCRS-IS and FSCRS-HS but similar FSCRS-RS scores. The slightly smaller effect sizes for depression and anxiety found in the current study could indicate that CFT interventions of a shorter duration focused solely on self-criticism have comparatively smaller effects on comorbid mental health difficulties. Two other uncontrolled studies of CFT group interventions in highly self-critical secondary mental healthcare patients (Judge et al., 2012; Lucre & Corten, 2013) that consisted of twelve to sixteen weekly sessions reported improvements in psychological problems, self-criticism and self-compassion. These studies did not specifically target self-criticism or measure self-compassion.

There have been two studies, both compared two forms of standard cognitive behavioural interventions targeting self-criticism along with related processes (Berlin, 1985; de Oliviera et al., 2012) and found improvements in self-criticism; however, these did not use validated measures of self-criticism. The effect sizes for reductions in self-criticism in the current study are similar to those from a pilot study of an EFT-based intervention of similar duration, which utilised chair-work to target self-criticism in ten highly self-critical adults and reported that gains were maintained at six-months (Shahar et al., 2012). However, they reported smaller changes in self-compassion than the present study. Shahar et al. (2012) and Judge et al. (2012) also found a similar pattern of smaller reductions in FSCRS-HS and anxiety scores. Another study that investigated an experiential virtual reality intervention found that whilst reduced self-criticism followed rehearsal of self-compassionate behaviours, virtual reality techniques offer additional improvements in self-compassion (Falconer et al., 2014). However, such a virtual reality intervention is not currently available for provision in an IAPT setting.

In summary, findings from this study appear to be consistent with existing literature and suggest that compassion-based or experiential interventions are useful for reducing self-criticism and that treatment-gains are maintained for at least two months. The current study extends previous findings as it investigates an individual CFT intervention for self-criticism within an IAPT context.

Should future research find this therapy to be an effective intervention for self-criticism, it would be recommended that this intervention is offered as routine in IAPT services. It is recommended that the therapy is offered as a longer, eight-session intervention, with the second half of sessions offered fortnightly to allow greater opportunities for self-practice and developing confidence in the techniques. The intervention could also be investigated in a group format as this would be a more effective use of resources, and the group process is likely to be beneficial for normalising self-criticism and modelling self-compassion. The intervention is likely to best fit into the IAPT stepped-care model as a low-intensity group. Alternatively, as an individual therapy, it is likely to be most useful as a high-intensity intervention for patients whose self-criticism was a barrier to therapy or for patients with comorbidities, for whom a transdiagnostic approach to targeting self-criticism would be more effective than multiple courses of disorder-specific CBT.

4.6. Strengths and limitations

The two-week minimum baseline period was helpful for evaluating pre-treatment changes in the absence of a control group. However, it should be noted that the detailed assessment and / or anticipation of imminent treatment may have had therapeutic impact, which would reduce the difference in outcome change between baseline and treatment periods. The two-month follow-up period provided indications of whether treatment gains are maintained. It may also have been clinically beneficial as it gave participants the opportunity and possibly motivation to practise techniques, knowing that their therapist would be discussing progress with them. Other strengths include the use of a clinical diagnostic interview at assessment. The supervisor offered thorough weekly supervision and listened to all sessions to ensure treatment fidelity. The results appear consistent across the four therapists despite differences in their training and previous clinical experience.

The findings should be interpreted holding in mind the study's limitations. This was a feasibility study without a control group and therefore it is not possible to conclude that the intervention caused the reductions in self-criticism. It is possible that the sampling method may have resulted in selection bias. Firstly, patients on the low-intensity treatment waiting-list received invitation letters for the study at the start of recruitment, however this process was not repeated later in recruitment so new patients did not receive this opportunity to express interest in participating. Secondly, patients on the waiting list for high-intensity treatment were not sent an invitation

letter. Thirdly, therapists only informed clients they considered suitable about the study; and lastly only some of the therapists within the large IAPT service made referrals.

The relatively small sample from a single site means that generalisability may be limited. The sample was predominantly Caucasian, well-educated women which further impacts the generalisability of these findings. The high proportion of females in the sample (75%) likely represents gender differences in clinical need because an equivalent percentage of females expressed interest in participating (72.5%). These findings are also consistent with the mainly female patient-group within the service, the female dominant samples in previous self-criticism interventions, and evidence from some studies that females are more self-critical and less self-compassionate than men (López et al., 2018; Yarnell et al., 2015). However, findings might also represent reduced help-seeking in males (Yousaf, Grunfeld & Hunter, 2015). There appears to have been a recruitment bias regarding over-inclusion of people with white ethnicity and higher education level as the socioeconomic status and ethnicity proportions of this sample were not equivalent to those in the general service.

Another limitation is that post-treatment feedback qualitatively was synthesised by the author, who also conducted the screenings and was a trial therapist, which may bias the findings. Additionally, waiting times for treatment, frequency and duration of the gaps-between-sessions, and time to follow-up varied between participants due to unavoidable issues regarding participant and therapist availability, which reflects the reality of clinical practice.

Three participants increased medication during the course of the therapy and two participants began further therapy before follow-up. Therefore, improvements in these participants may also reflect benefits of medication and ongoing therapy. Questionnaire data was sometimes late and reported retrospectively because participants forgot to complete some or all of the items. Technical difficulties with the online data collection system likely resulted in this problem and it is recommended that future research strives to minimise such difficulties. Based on therapist feedback, allocation of dedicated time for research-related paperwork is likely to have improved data collection. On the WSAS, despite clear instructions only to respond with ‘not applicable’ regarding the impact of self-criticism on ability to work, participants often responded ‘not applicable’ to other items, and this may have reduced the internal consistency of this measure. Future research should ensure that participants should not have had that option available. Due to the small sample size and pilot nature of this study primarily focused on feasibility and acceptability, participants were included in all analyses despite any issues with medication

changes, further treatment or questionnaire collection. However, this means that extra caution should be applied in drawing conclusions from the findings.

4.7. Future research

The results of this feasibility study are promising and suggest a need for a clinical trial to investigate this intervention. This might include an initial small study to investigate the feasibility of recruiting to a randomised design. Ultimately, it is recommended that a multi-site RCT is conducted that includes a longer follow-up and involves a waiting-list condition as well as an active-treatment control condition such as CBT or counselling in IAPT services. Such evidence would help identify whether this therapy causes helpful changes, is more effective than others in reducing self-criticism and offers benefits that are maintained or even improve over time. Including a diagnostic assessment after follow-up would provide useful data about the impact of treatment on comorbid mental health problems. However, as this would increase burden for participants, it is recommended that a shorter diagnostic interview than the SCID, such as the Mini-International Neuropsychiatric Interview (MINI) (Sheehan et al., 1997) is used.

It is also recommended that future research uses fewer measures to minimise the potential for fatigue and burden on participants. Unless required by clinical service, as was the case in the current study, data should only be collected for the time-points used in analyses. The Self-Compassion Scale – Short Form (Raes, Pommier, Neff & Van Gucht, 2011) is recommended instead of the SCS; to minimise overlap with measurement of self-criticism, only its six positive items should be used. The Reassured Self subscale of the FSCRS should not be used as the results indicated that it is unlikely to be a mechanism of change.

A recent systematic review of self-criticism measures (Rose & Rimes, 2018) found that the FSCRS and SCRS had the strongest psychometric properties; however, they also highlighted that the evidence base needs to be expanded before firm conclusions are made. Although the FSCRS is more commonly used than the HINT and SCRS, there is no evidence for its test-retest reliability, which is important in research with repeated-measures designs. The HINT, could potentially measure 'healthy' self-critical / self-corrective cognitive processes because it is content and valence-free unlike the SCRS and FSCRS. As such, further research regarding the differences between these measures is needed. Until then, it is recommended that research includes a pilot study and assess the correlations between measures. If measures are strongly correlated to each other, the SCRS should be used due to its brevity and stronger psychometric properties. If there

are weak correlations, all three measures should continue to be used so that differences can be investigated and understood.

4.8. Conclusions

This six-session self-criticism intervention was feasible for further research investigation in an IAPT context, with adequate recruitment and high retention rates. Most participants and all therapists viewed the treatment favourably. This study showed that participants with a diverse range of psychological problems associated with self-criticism showed significant improvements on all outcomes by two-month follow-up. Reductions in self-criticism and depression over the treatment phase were significantly larger than during the baseline non-treatment period. Based on feedback about the intervention's acceptability to therapists and patients, the main recommended changes for a future trial include having a greater number of sessions and a briefer agenda for each session's protocol to allow for greater in-session practice of new techniques. The promising results warrant further clinical research into this novel transdiagnostic therapeutic approach; however, as this is an uncontrolled study, results should be interpreted tentatively. Future research with a control group is warranted to corroborate the findings about the efficacy of this intervention. Additionally, larger randomised controlled trials could address important questions such as, which patients benefit the most from this intervention and the likely mechanisms of change such as improvement in self-compassion.

5. References

Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2015). Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention. *Mindfulness*, *6*(3), 444-454.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders – 5th edition. Arlington, VA: American Psychiatric Publishing

Arain, M., Campbell, M. J., Cooper, C. L., & Lancaster, G. A. (2010). What is a pilot or feasibility study? A review of current practice and editorial policy. *BMC Medical Research Methodology*, *10*(1), 67. doi: 10.1186/1471-2288-10-67mc

Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. In: P. J. Clayton & J. E. Barrett (Eds.), *Treatment of depression: Old controversies and new approaches.* New York, NY: Raven Press.

Beck, A. T. (1991). Cognitive therapy: A 30-year retrospective. *American Psychologist*, *46*(4), 368-375.

Beck, A.T., Rush, A.J., Shaw, B.E. & Emery, G. (1979). *Cognitive therapy of depression.* New York, NY: Guilford Press.

Bell, T., Mackie, L., & Bennett-Levy, J. (2015). 'Venturing towards the dark side': The use of imagery interventions by recently qualified cognitive–behavioural therapists. *Clinical Psychology & Psychotherapy*, *22*(6), 591-603.

Berlin, S. (1985). Maintaining reduced levels of self-criticism through relapse-prevention treatment. *Social Work Research and Abstracts*, *21*(1), 21-33.

Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. *Psychoanalytic Study of the Child, 29,* 107–157.

Blatt, S. J. & Blass, R.B. (1990). Attachment and separateness: A dialectic model of the products and processes of psychological development. *Psychoanalytic Study of the Child*, *45,* 107–127.

Carter, R. E., & Woolson, R. F. (2004). Statistical design considerations for pilot studies transitioning therapies from the bench to the bedside. *Journal of Translational Medicine*, *2*(1), 37. doi: 10.1186/1479-5876-2-37

Castilho, P., Pinto-Gouveia, J., & Duarte, J. (2015). Exploring self-criticism: Confirmatory factor analysis of the FSCRS in clinical and non-clinical samples. *Clinical Psychology and Psychotherapy, 22*, 153-164.

Castilho, P., Pinto-Gouveia, J., & Duarte, J. (2017). Two forms of self-criticism mediate differently the shame–psychopathological symptoms link. *Psychology and Psychotherapy: Theory, Research and Practice*, *90*(1), 44-54.

Cheung, M. P., Gilbert, P., & Irons, C. (2004). An exploration of shame, social rank and rumination in relation to depression. *Personality and Individual Differences*, *36*(5), 1143-1153.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155.

Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology*, *65*, 333-371.

Costa, J., Marôco, J., Pinto-Gouveia, J., Ferreira, C., & Castilho, P. (2016). Validation of the psychometric properties of the Self-Compassion Scale. Testing the factorial validity and factorial invariance of the measure among borderline personality disorder, anxiety disorder, eating disorder and general populations. *Clinical Psychology & Psychotherapy*, *23*(5), 460-468.

Costa, J., & Pinto-Gouveia, J. (2011). Acceptance of pain, self-compassion and psychopathology: Using the Chronic Pain Acceptance Questionnaire to identify patients' subgroups. *Clinical Psychology & Psychotherapy*, *18*(4), 292-302.

Cox, B. J., Fleet, C., & Stein, M. B. (2004). Self-criticism and social phobia in the US national comorbidity survey. *Journal of Affective Disorders*, *82*(2), 227-234.

Cristea, I. A., Tatar, A. S., & Lucacel, R. (2014). Differential Effects of Self-Statements Following a Self-Esteem Threatening Situation. *Journal of Evidence-Based Psychotherapies*, *14*(1), 39-52.

Donald, J. N., Ciarrochi, J., Parker, P. D., Sahdra, B. K., Marshall, S. L., & Guo, J. (2017). A worthy self is a caring self: Examining the developmental relations between self-esteem and self-compassion in adolescents. *Journal of Personality*. doi: 10.1111/jopy.12340

Dunkley, D. M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, hassles, and current distress: A structural equation modeling approach. *Cognitive Therapy and Research*, *24*(6), 713-730.

Dunkley, D. M., & Grilo, C. M. (2007). Self-criticism, low self-esteem, depressive symptoms, and over-evaluation of shape and weight in binge eating disorder patients. *Behaviour Research and Therapy*, *45*(1), 139-149.

Dunkley, D. M., Masheb, R. M., & Grilo, C. M. (2010). Childhood maltreatment, depressive symptoms, and body dissatisfaction in patients with binge eating disorder: The mediating role of self-criticism. *International Journal of Eating Disorders*, *43*(3), 274-281.

Falconer, C. J., Slater, M., Rovira, A., King, J. A., Gilbert, P., Antley, A., & Brewin, C. R. (2014). Embodying compassion: a virtual reality paradigm for overcoming excessive self-criticism. *PloS One*, *9*(11), e111933. doi: 10.1371/journal.pone.0111933

Feldman, G., Greeson, J., & Senville, J. (2010). Differential effects of mindful breathing, progressive muscle relaxation, and loving-kindness meditation on decentering and negative reactions to repetitive thoughts. *Behaviour Research and Therapy*, *48*(10), 1002-1011.

Fennell, M.J.V. (1997). Low self-esteem: A cognitive perspective. *Behavioural and Cognitive Psychotherapy, 25*, 1-26.

First, M.B., Williams, J.B.W., Karg, R.S., & Spitzer, R.L. (2015). *User's Guide for the Structured Clinical Interview for DSM-5 Disorders, Research Version* (SCID-5-RV). Arlington, VA: American Psychiatric Association.

Fox-Wasylyshyn, S. M., & El-Masri, M. M. (2005). Handling missing data in self-report measures. *Research in Nursing & Health*, *28*(6), 488-495.

Gilbert, P. (2000). Social mentalities: Internal 'social' conflicts and the role of inner warmth and compassion in cognitive therapy. *In P. Gilbert & K.G. Bailey (Eds.), Genes on the couch: Explorations in evolutionary psychotherapy* (p. 118–150). Hove, UK: Psychology Press.

Gilbert, P. (2009a). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment*, *15*(3), 199-208.

Gilbert, P. (2009b). *The compassionate mind: A new approach to life's challenges*. London, UK: Constable-Robinson Limited.

Gilbert, P. (2010a). An introduction to compassion focused therapy in cognitive behavior therapy. International Journal of Cognitive Therapy, 3, 97-112.

Gilbert, P. (2010b). Compassion focused therapy*: The CBT distinctive features series*. Hove, UK: Routledge.

Gilbert, P. (2010c). An Introduction to the theory & practice of compassion focused therapy and compassionate mind training for shame based difficulties. Retrieved from: http://www.compassionatemind.co.uk/downloads/training_materials/1.%20Workbook_2010.pdf

Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology*, *53*(1), 6-41.

Gilbert, P., Baldwin, M. W., Irons, C., Baccus, J. R., & Palmer, M. (2006a). Self-criticism and self-warmth: An imagery study exploring their relation to depression. *Journal of Cognitive Psychotherapy*, *20*(2), 183-200.

Gilbert, P., Clarke, M., Hempel, S., Miles, J. N., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology*, *43*(1), 31-50.

Gilbert, P., Durrant, R., & McEwan, K. (2006b). Investigating relationships between perfectionism, forms and functions of self-criticism, and sensitivity to put-down. *Personality and Individual Differences*, *41*(7), 1299-1308.

Gilbert, P., & Irons, C. (2004). A pilot exploration of the use of compassionate images in a group of self-critical people. *Memory, 12(4),* 507-516.

Gilbert, P., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology and Psychotherapy: Theory, Research and Practice*, *84*(3), 239-255.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self- criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology & Psychotherapy, 13,* 353–379.

Graham, C. (2017). Examining the role of self-compassion in acceptance and commitment therapy with a substance abusing population (doctoral thesis). Retrieved from ProQuest Dissertations (10139387).

Greenberg, L. S. (2004). Emotion–focused therapy. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, *11*(1), 3-16.

Greenberg, L. S., Rice, L. N., & Elliott, R. (1993). *Facilitating emotional change: The moment-by-moment process*. New York, NY: Guilford Press.

Hertzog, M. A. (2008). Considerations in determining sample size for pilot studies. *Research in nursing & health*, *31*(2), 180-191.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277-1288.

Hutton, P., Kelly, J., Lowens, I., Taylor, P. J., & Tai, S. (2013). Self-attacking and self-reassurance in persecutory delusions: A comparison of healthy, depressed and paranoid individuals. *Psychiatry Research*, *205*(1-2), 127-136.

IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.

James, K., Verplanken, B., & Rimes, K. A. (2015). Self-criticism as a mediator in the relationship between unhealthy perfectionism and distress. *Personality and Individual Differences*, *79*, 123-128.

Jazaieri, H., Jinpa, G.T., McGonigal, K., Rosenberg, E.L., Finkelstein, J., Simon-Thomas, E., Cullen, M., Doty, J.R., Gross, J.J. & Goldin, P.R. (2013). Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. *Journal of Happiness Studies*, *14*(4), 1113-1126.

Jensen, P. S., Weersing, R., Hoagwood, K. E., & Goldman, E. (2005). What is the evidence for evidence-based treatments? A hard look at our soft underbelly. *Mental Health Services Research*, *7*(1), 53-74.

Joint Commissioning Panel for Mental Health. (2012). Guidance for commissioners of primary mental health care services. Retrieved from: www.jcpmh.info/resource/guidance-for-commissioners-of-primary-mental-health-care-services

Judge, L., Cleghorn, A., McEwan, K., & Gilbert, P. (2012). An exploration of group-based compassion focused therapy for a heterogeneous range of clients presenting to a community mental health team. *International Journal of Cognitive Therapy, 5*(4), 420-429.

Kannan, D., & Levitt, H. M. (2013). A review of client self-criticism in psychotherapy. *Journal of Psychotherapy Integration*, *23*(2), 166-178.

Kelly, A. C., & Carter, J. C. (2013). Why self-critical patients present with more severe eating disorder pathology: The mediating role of shame. *British Journal of Clinical Psychology*, *52*(2), 148-161.

Khatibi, M., & Fouladchang, M. (2015). Self-esteem: A brief review. *Journal of Educational and Management Studies, 5(4),* 240-243.

Kolubinski, D. C., Nikčević, A. V., Lawrence, J. A., & Spada, M. M. (2017). The metacognitions about self-critical rumination questionnaire. *Journal of Affective Disorders*, *220*, 129-138.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606-613.

Kupeli, N., Chilcot, J., Schmidt, U. H., Campbell, I. C., & Troop, N. A. (2013). A confirmatory factor analysis and validation of the forms of self-criticism/reassurance scale. *British Journal of Clinical*

Psychology, *52*(1), 12-25.

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. *Advances in Experimental Social Psychology, 32*, 1-62.

Leaviss, J., & Uttley, L. (2015). Psychotherapeutic benefits of compassion-focused therapy: An early systematic review. *Psychological Medicine*, *45*(5), 927-945.

Lerman, S. F., Shahar, G., & Rudich, Z. (2012). Self-criticism interacts with the affective component of pain to predict depressive symptoms in female patients. *European Journal of Pain*, *16*(1), 115-122

López, A., Sanderman, R., Ranchor, A. V., & Schroevers, M. J. (2018). Compassion for others and self-compassion: Levels, correlates, and relationship with psychological well-being. *Mindfulness*, *9*(1), 325-331.

López, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Ranchor, A., & Schroevers, M. J. (2015). A reconsideration of the Self-Compassion Scale's total score: Self-compassion versus self-criticism. *PloS one*, *10*(7), e0132940. doi: 10.1371/journal.pone.0132940

Lucre, K. M., & Corten, N. (2013). An exploration of group compassion-focused therapy for personality disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, *86*(4), 387-400.

Luyten, P., Sabbe, B., Blatt, S.J., Meganck, S., Jansen, B., De Grave, C., Maes, F. & Corveleyn, J. (2007). Dependency and self-criticism: Relationship with major depressive disorder, severity of depression, and clinical presentation. *Depression and Anxiety*, *24*(8), 586-596.

MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review, 32*(6), 545-552.

Marshall, S. L., Parker, P. D., Ciarrochi, J., Sahdra, B., Jackson, C. J., & Heaven, P. C. (2015). Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample. *Personality and Individual Differences*, *74*, 116-121.

Mayring, P. (2000). Qualitative content analysis. *Forum: Qualitative Social Research, 1*(2), 20, 1-10.

McIntyre, R., Smith, P., & Rimes, K. A. (2018). The role of self-criticism in common mental health difficulties in students: A systematic review of prospective studies. *Mental Health & Prevention, 10,* 13-27.

Mental Health Taskforce (2016). The five year forward view for mental health: An independent Mental Health Taskforce to the NHS in England. Retrieved from: www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf

Mongrain, M., & Leather, F. (2006). Immature dependence and self-criticism predict the recurrence of major depression. *Journal of Clinical Psychology*, *62*(6), 705-713.

Mundt, J. C., Marks, I. M., Shear, M. K., & Greist, J. M. (2002). The Work and Social Adjustment Scale: a simple measure of impairment in functioning. *The British Journal of Psychiatry*, *180*(5), 461-464.

Muris, P., & Petrocchi, N. (2017). Protection or vulnerability? A meta-analysis of the relations between the positive and negative components of self-compassion and psychopathology. *Clinical Psychology & Psychotherapy*, *24*(2), 373-383.

Neff, K. D. (2003a). Development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223-250.

Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2,* 85-101.

Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology*, *69*(1), 28-44.

Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality*, *77*(1), 23-50.

Neff, K. D., Whittaker, T. A., & Karl, A. (2017). Examining the factor structure of the self-compassion scale in four distinct populations: is the use of a total scale score justified?. *Journal of Personality Assessment*, *99*(6), 596-607.

Nolen–Hoeksema, S. (2004). The response styles theory. In C. Papageorgiou & A. Wells (Eds.), *Depressive rumination: Nature, theory and treatment* (pp. 107-123). Chichester, UK: John Wiley & Sons Limited.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, *3*(5), 400-424.

O'Brien, E. J., Bartoletti, M., & Leitzel, J. D. (2006). Self-esteem, psychopathology, and psychotherapy. In M.H. Kernis (Ed.), *Self-esteem issues and answers: A sourcebook of current perspectives* (pp 306-315). Hove, UK: Psychology Press.

O'Connor, R. C., & Noyce, R. (2008). Personality and cognitive processes: Self-criticism and different types of rumination as predictors of suicidal ideation. *Behaviour Research and Therapy*, *46*(3), 392-401.

Owens, T. J. (1993). Accentuate the positive-and the negative: Rethinking the use of self-esteem, self-deprecation, and self-confidence. *Social Psychology Quarterly*, 288-299.

Pagano, R. R. (2013). *Understanding statistics in the behavioral sciences* (10th ed.). Boston, MA: Cengage.

Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*. 18, 250-255

Rector, N.A., Bagby, R.M., Segal, Z.V., Joffe, R.T., & Levitt, A. (2000). Self-criticism and dependency in depressed patients treated with cognitive therapy or pharmacotherapy. *Cognitive Therapy and Research, 24,* 571–584.

Rimes, K. A., & Chalder, T. (2010). The Beliefs about Emotions Scale: validity, reliability and sensitivity to change. *Journal of Psychosomatic Research*, *68*(3), 285-292.

Rose, A., McIntyre, R., & Rimes, K.A. (2018) Compassion focused intervention for highly self-critical individuals: Pilot study. *Behavioural and Cognitive Psychotherapy, 46*(5), 583-600.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Safran, J. D., & Muran, J. C. (1996). The resolution of ruptures in the therapeutic alliance. *Journal of Consulting and Clinical Psychology*, *64*(3), 447-458.

Schiller, M., Hammen, C. C., & Shahar, G. (2016). Links among the self, stress, and psychological distress during emerging adulthood: Comparing three theoretical models. *Self and Identity*, *15*(3), 302-326.

Seidel, J. A., Miller, S. D., & Chow, D. L. (2014). Effect size calculations for the clinician: Methods and comparability. *Psychotherapy Research*, *24*(4), 470-484.

Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, *40*(7), 773-791.

Shahar, B., Carlin, E. R., Engle, D. E., Hegde, J., Szepsenwol, O., & Arkowitz, H. (2012). A pilot investigation of emotion-focused two-chair dialogue intervention for self-criticism. *Clinical Psychology & Psychotherapy*, *19*(6), 496-507.

Shahar, B., Szepsenwol, O., Zilcha-Mano, S., Haim, N., Zamir, O., Levi-Yeshuvi, S., & Levit-Binnun, N. (2015). A wait-list randomized controlled trial of loving-kindness meditation programme for self-criticism. *Clinical Psychology & Psychotherapy*, *22*(4), 346-356.

Shahar, G. (2001). Personality, shame, and the breakdown of social bonds: The voice of quantitative depression research. *Psychiatry: Interpersonal and Biological Processes*, *64*(3), 228-239.

Shahar, G. (2016). Criticism in the self, brain, relationships, and social Structure: Implications for psychodynamic psychiatry. *Psychodynamic Psychiatry*, *44*(3), 395-421.

Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, *62*(3), 373-386.

Sheehan, D.V., Lecrubier, Y., Sheehan, K.H., Janavs, J., Weiller, E., Keskiner, A., Schinka, J., Knapp, E., Sheehan, M.F. & Dunbar, G. C. (1997). The validity of the Mini International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *European Psychiatry*, *12*(5), 232-241.

Smart, L. M., Peters, J. R., & Baer, R. A. (2016). Development and validation of a measure of self-critical rumination. *Assessment*, *23*(3), 321-332.

Smith, J. M., & Alloy, L. B. (2009). A roadmap to rumination: A review of the definition, assessment, and conceptualization of this multifaceted construct. *Clinical Psychology Review*, *29*(2), 116-128.

Sommers-Spijkerman, M. P. J., Trompetter, H. R., Schreurs, K. M. G., & Bohlmeijer, E. T. (2018). Compassion-focused therapy as guided self-help for enhancing public mental health: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *86*(2), 101.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, *166*(10), 1092-1097.

Stansfeld, S., Clark, C., Bebbington, P., King, M., Jenkins, R., & Hinchliffe, S. (2016). Common mental disorders. In S. McManus, P. Bebbington, R. Jenkins & T. Brugha (Eds.), *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014*. Leeds, UK: NHS Digital.

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, *10*(4), 295-319.

Stolow, D., Zuroff, D. C., Young, J. F., Karlin, R. A., & Abela, J. R. (2016). A prospective examination of self-compassion as a predictor of depressive symptoms in children and adolescents. *Journal of Social and Clinical Psychology*, *35*(1), 1-20.

Stott, R. (2007). When head and heart do not agree: a theoretical and clinical analysis of rational-emotional dissociation (RED) in cognitive therapy. *Journal of Cognitive Psychotherapy*, *21*(1), 37-50.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53-55.

Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L.P., Robson, R., Thabane, M., Giangregorio, L. and Goldsmith, C.H. (2010). A tutorial on pilot studies: The what, why and how. *BMC Medical Research Methodology*, *10*(1), 1.

Thew, G. R., Gregory, J. D., Roberts, K., & Rimes, K. A. (2017). The phenomenology of self-critical thinking in people with depression, eating disorders, and in healthy individuals. *Psychology and Psychotherapy: Theory, Research and Practice*, *90*(4), 751-769.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247-259.

Verplanken, B. (2006). Beyond frequency: Habit as mental construct. *British Journal of Social Psychology*, *45*(3), 639-656.

Verplanken, B., Friborg, O., Wang, C. E., Trafimow, D., & Woolf, K. (2007). Mental habits: Metacognitive reflection on negative self-thinking. *Journal of Personality and Social Psychology*, *92*(3), 526-541.

Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry*, *14*(3), 270-277.

Whelton, W. J., & Greenberg, L. S. (2005). Emotion in self-criticism. *Personality and Individual Differences*, *38*(7), 1583-1595.

Whelton, W. J., & Henkelman, J. J. (2002). A verbal analysis of forms of self-criticism. *Alberta Journal of Educational Research*, *48*(1), 88-90.

Whelton, W. J., Paulson, B., & Marusiak, C. W. (2007). Self-criticism and the therapeutic relationship. *Counselling Psychology Quarterly*, *20*(2), 135-148.

World Health Organisation. (2017). Depression and other common mental disorders: Global health estimates. Geneva, Switzerland: World Health Organization. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf?sequence=1

Yarnell, L. M., Stafford, R. E., Neff, K. D., Reilly, E. D., Knox, M. C., & Mullarkey, M. (2015). Meta-analysis of gender differences in self-compassion. *Self and Identity*, *14*(5), 499-520.

Yousaf, O., Grunfeld, E. A., & Hunter, M. S. (2015). A systematic review of the factors associated with delays in medical and psychological help-seeking among men. *Health Psychology Review*, *9*(2), 264-276.

Zeigler-Hill, V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy*, *41*(3), 157-164.

Zessin, U., Dickhäuser, O., & Garbade, S. (2015). The relationship between self-compassion and well-being: A meta-analysis. *Applied Psychology: Health and Well-Being*, *7*(3), 340-364.

Zettle, R. D., Webster, B. K., Gird, S. R., Wagener, A. L., & Burdsal, C. A. (2013). Factor structure of the Automatic Thoughts Questionnaire in a clinical sample. *International Journal of Cognitive Therapy*, *6*(3), 280-291.

6. Appendices

Appendices - Table of contents

Appendix 1: Study Flow Diagram *74*

Appendix 2: Data collected at each time-point *75*

Appendix 3: Copies of measures *76*

3.1. Standardised questionnaires *76*

3.1.1. Habitual Index of Negative Thinking (HINT) – primary outcome measure 76

3.1.2. Forms of Self-Criticizing / Attacking and Self-Reassuring Scale (FSCRS) 78

3.1.3. Self-Critical Rumination Scale (SCRS) – primary outcome measure 82

3.1.4. Generalised Anxiety Disorder (GAD-7) – secondary outcome measure 84

3.1.5. Patient Health Questionnaire (PHQ9) – secondary outcome measure 85

3.1.6. Work & Social Adjustment Scale (WSAS) – secondary outcome measure 87

3.1.7. Rosenberg Self-Esteem Scale (RSES) – secondary outcome measure 88

3.1.8. Self-Compassion Scale (SCS) – process measure 90

3.1.9. Beliefs about Emotions Scale (BES) – process measure 91

3.1.10. Functions of Self-Criticizing / Attacking Scale (FSCS) – assessment measure 92

3.2. 'Pre-treatment expectations' scales *96*

3.3. Post-treatment feedback questionnaire *97*

3.4. Follow-up feedback rating scales *100*

Appendix 4: Recruitment *102*

4.1. Cover letter *102*

4.2. Information sheet *103*

4.3. Consent form *107*

Appendix 5: Overview of session protocols *108*

Appendix 6: Session materials *112*

6.1. Formulation sheet *112*

6.2. Therapy summary sheet *113*

6.3. Follow-up proforma *114*

6.4. Risk management plan *115*

Appendix 7: Treatment scores for each participant's primary outcomes and process measures *116*

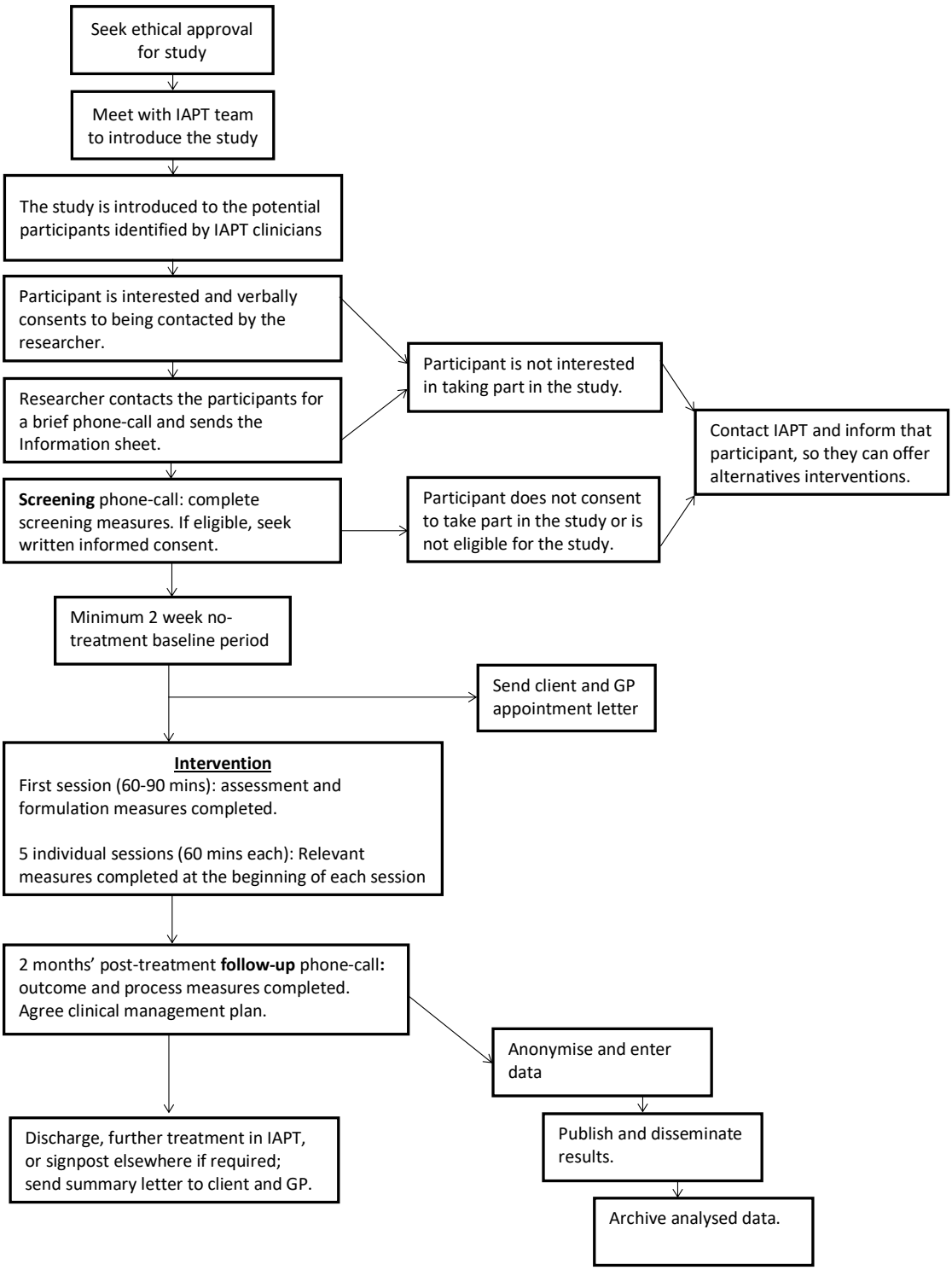
Appendix 8: Data preparation *123*

Appendix 9: Therapist effects *124*

Appendix 10: Results of regression analyses *126*

Appendix 11: Results of Work and Social Adjustment Scale (WSAS) item scores *127*

Appendix 1: Study Flow Diagram



Appendix 2: Data collected at each time-point

	Measure	Type of measure	*Screening*	Treatment sessions						*Follow-up*
				1 ***pre***	*2*	*3*	*4* ***mid***	*5*	*6* ***post***	
1.	Structured Clinical Interview for DSM-5 Research Version (SCID-5-RV)	Assessment	X							
2.	Self-Critical Rumination Scale (SCRS)	Primary outcome	X	X	X	X	X	X	X	X
3.	The Habitual Index of Negative Thinking (HINT)	Primary outcome		X			X		X	X
4.	The Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) – Insecure (FSCRS-IS) and Hated Self (FSCRS-HS) subscales	Primary outcome		X			X		X	X
5.	Patient Health Questionnaire (PHQ-9)*	Secondary outcome	X	X	X	X	X	X	X	X
6.	Generalised Anxiety Disorder (GAD-7)*	Secondary outcome	X	X	X	X	X	X	X	X
7.	Work and Social Adjustment Scale (WSAS)* adapted for self-criticism	Secondary outcome	X	X	X	X	X	X	X	X
8.	Rosenberg's Self-Esteem Scale (RSES)	Secondary outcome		X			X		X	X
9.	FSCRS – Reassured Self (FSCRS-RS) subscale	Process		X			X		X	X
10.	Self-Compassion Scale (SCS)	Process		X			X		X	X
11.	Beliefs about Emotions Scale (BES)	Process		X			X		X	X
12.	The Functions of Self-Criticizing/Attacking Scale (FSCS)	Assessment		X						
13.	'Pre-treatment expectations' scales**	Assessment		X						
14.	Post-treatment feedback questionnaire	Feedback							X	
15.	Follow-up feedback rating scales	Feedback								X

*The PHQ9, GAD7, and WSAS are used as primary outcome measures across IAPT services

** Completed in session 1

Note: Data at 'screening' is the first baseline measurement and 'pre-treatment' data provides the second baseline measurement for each participant's baseline period.

Appendix 3: Copies of measures

3.1. Standardised questionnaires

Copies of the SCID cannot be provided due to copyright. Copies of other measures are provided below, presented in the order of primary outcomes, secondary outcomes, process measures, and assessment measure. The Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS) is reported with the outcome measures.

3.1.1. Habitual Index of Negative Thinking (**HINT**) – primary outcome measure.

Occasionally we think about ourselves. Such thoughts may be positive but may also be negative. In this study we are interested in *negative* thoughts you may have about yourself.

Please indicate how much you agree or disagree with the following statements.

1.	*Thinking negatively about myself is something…* I do frequently	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

2.	*Thinking negatively about myself is something…* I do automatically	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

3.	*Thinking negatively about myself is something…* I do unintentionally	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

4.	*Thinking negatively about myself is something…* That feels sort of natural to me	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

5.	*Thinking negatively about myself is something…* I do without further thinking	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

6.	*Thinking negatively about myself is something…* That would require mental effort to leave	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

7.	*Thinking negatively about myself is something…* I do every day	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

8.	*Thinking negatively about myself is something…* I start doing before I realize I'm doing it	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

9.	*Thinking negatively about myself is something…* I would find it hard not to do	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

10.	*Thinking negatively about myself is something…* I do not do on purpose	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

11.	*Thinking negatively about myself is something…* That's typically "me"	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

12.	*Thinking negatively about myself is something…* I have been doing for a long time	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

3.1.2. Forms of Self-Criticizing / Attacking and Self-Reassuring Scale (FSCRS)

- *Primary outcome measures*:
  Insecure Self (FSCRS-IS) subscale: items 1, 2, 4, 6, 7, 14, 17, 18, 20
  Hated Self (FSCRS-HS) subscales: items 9, 10, 12, 15, 22
- *Process measure*: Reassured Self (FSCRS-RS) subscale: items 3, 5, 8, 11, 13, 16, 19, 21

When things go wrong in our lives or don't work out as we hoped, and we feel we could have done better, we sometimes have negative and self-critical thoughts and feelings. These may take the form of feeling worthless, useless or inferior etc. However, people can also try to be supportive of themselves. Below are a series of thoughts and feelings that people sometimes have.

Read each statement carefully and circle the number that best describes how much each statement is true for you. Please use the scale below.

1.	When things go wrong for me… I am easily disappointed with myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

2.	When things go wrong for me… There is a part of me that puts me down	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

3.	When things go wrong for me… I am able to remind myself of positive things about myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

4.	When things go wrong for me… I find it difficult to control my anger and frustration at myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

5.	When things go wrong for me… I find it easy to forgive myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

6.	When things go wrong for me… There is a part of me that feels I am not good enough	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

7.	When things go wrong for me… I feel beaten down by my own self-critical thoughts	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

8.	When things go wrong for me… I still like being me	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

9.	When things go wrong for me… I have become so angry with myself that I want to hurt or injure myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

10.	When things go wrong for me… I have a sense of disgust with myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

11.	When things go wrong for me… I can still feel loveable and acceptable	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

12.	When things go wrong for me… I stop caring about myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

13.	When things go wrong for me… I find it easy to like myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

14.	When things go wrong for me… I remember and dwell on my failings	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

15.	When things go wrong for me… I call myself names	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

16.	When things go wrong for me… I am gentle and supportive with myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

17.	When things go wrong for me… I can't accept failures and setbacks without feeling inadequate	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

18.	When things go wrong for me… I think I deserve me self-criticism	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

19.	When things go wrong for me… I am able to care and look after myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

20.	When things go wrong for me… There is a part of me that wants to get rid of the bits I don't like	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

21.	When things go wrong for me… I encourage myself for the future	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

22.	When things go wrong for me… I do not like being me	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

3.1.3. Self-Critical Rumination Scale (SCRS) – primary outcome measure

Please rate how well each statement describes you.

1.	My attention is often focused on aspects of myself that I'm ashamed of	1	Not at all
		2	A little
		3	Moderately
		4	Very well

2.	I always seem to be rehashing in my mind stupid things that I've said or done	1	Not at all
		2	A little
		3	Moderately
		4	Very well

3.	Sometimes it's hard for me to shut off critical thoughts about myself	1	Not at all
		2	A little
		3	Moderately
		4	Very well

4.	I can't stop thinking about how I should have acted differently in certain situations	1	Not at all
		2	A little
		3	Moderately
		4	Very well

5.	I spend a lot of time thinking about how ashamed I am of some of my personal habits	1	Not at all
		2	A little
		3	Moderately
		4	Very well

6.	I criticize myself a lot for how I act around other people	1	Not at all
		2	A little
		3	Moderately
		4	Very well

7.	I wish I spent less time criticizing myself	1	Not at all
		2	A little
		3	Moderately
		4	Very well

8.	I often worry about all of the mistakes I have made	1	Not at all
		2	A little
		3	Moderately
		4	Very well

9.	I spend a lot of time wishing I were different	1	Not at all
		2	A little
		3	Moderately
		4	Very well

10.	I often berate myself for not being as productive as I should be	1	Not at all
		2	A little
		3	Moderately
		4	Very well

3.1.4. Generalised Anxiety Disorder (GAD-7) – secondary outcome measure

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1.	Feeling nervous, anxious or on edge	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

2.	Not being able to stop or control worrying	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

3.	Worrying too much about different things	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

4.	Trouble relaxing	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

5.	Being so restless that it is hard to sit still	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

6.	Becoming easily annoyed or irritable	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

7.	Feeling afraid as if something awful might happen	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

3.1.5. Patient Health Questionnaire (PHQ9) – secondary outcome measure

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1.	Little interest or pleasure in doing things	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

2.	Feeling down, depressed or hopeless	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

3.	Trouble falling or staying asleep, or sleeping too much	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

4.	Feeling tired or having little energy	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

5.	Poor appetite or overeating	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

6.	Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

7.	Trouble concentrating on things, such as reading the newspaper or watching television	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

8.	Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

9.	Thoughts that you would be better off dead, or hurting yourself	0	Not at all
		1	Several days
		2	More than half the days
		3	Nearly every day

3.1.6. Work & Social Adjustment Scale (WSAS) – secondary outcome measure

Note: The WSAS was adapted to assess the functional impact of self-criticism.

People's problems sometimes affect their ability to do certain day-to-day tasks in their lives. To rate your problems, look at each section and **please indicate how much your problem impairs your ability to carry out the activity.**

If you're retired or choose not to have a job for reasons unrelated to your problem, tick here ☐

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

'0' means 'not at all impaired' and '8' means very severely impaired.

Area of functioning	**Score**
Because of my self-critical thinking my **ability to work** is impaired. '0' means 'not at all impaired' and '8' means very severely impaired to the point I can't work.	
Because of my self-critical thinking my **home management** (cleaning, tidying, shopping, cooking, looking after home or children, paying bills) is impaired.	
Because of my self-critical thinking my **social leisure activities** (with other people e.g. parties, bars, clubs, outings, visits, dating, home entertaining) are impaired.	
Because of my self-critical thinking my **private leisure activities** (done alone, such as reading, gardening, collecting, sewing, walking alone) are impaired.	
Because of my self-critical thinking my ability to form and maintain **close relationships** with others, including those I live with, is impaired.	

3.1.7. Rosenberg Self-Esteem Scale (RSES) – secondary outcome measure

Below is a list of statements dealing with your general feelings about yourself.

Please indicate how much you agree or disagree with the following statements.

1.	I feel that I'm a person of worth, at least on an equal plane with others.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

2.	I feel that I have a number of good qualities.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

3.	All in all, I am inclined to feel that I am a failure.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

4.	I am able to do things as well as most other people.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

5.	I feel I do not have much to be proud of.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

6.	I take a positive attitude toward myself.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

7.	On the whole, I am satisfied with myself.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

8.	I wish I could have more respect for myself.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

9.	I certainly feel useless at times.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

10	At times, I think I am no good at all.	1	Strongly disagree
		2	Disagree
		3	Agree
		4	Strongly agree

3.1.8. Self-Compassion Scale (SCS) – process measure

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost Never **Almost Always**

1 2 3 4 5

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

3.1.9. Beliefs about Emotions Scale (BES) – process measure

Please tick the column that best describes how you think. Please note that because people are different, there are no right or wrong answers to these statements.

To decide whether a given answer is typical of your way of looking at things, simply keep in mind how you think most of the time.

	Totally disagree	*Disagree very much*	*Disagree slightly*	*Neutral*	*Agree slightly*	*Agree very much*	*Totally agree*
It is a sign of weakness if I have miserable thoughts.							
If I have difficulties I should not admit them to others.							
If I lose control of my emotions in front of others, they will think less of me.							
I should be able to control my emotions.							
If I am having difficulties it is important to put on a brave face.							
If I show signs of weakness then others will reject me.							
I should not let myself give in to negative feelings.							
I should be able to cope with difficulties on my own without turning to others for support.							
To be acceptable to others, I must keep any difficulties or negative feelings to myself.							
It is stupid to have miserable thoughts.							
It would be a sign of weakness to show my emotions in public.							
Others expect me to always be in control of my emotions.							

3.1.10. Functions of Self-Criticizing / Attacking Scale (FSCS) – assessment measure

There can be many reasons why people become critical and angry with themselves.

Read each statement carefully and circle the number that best describes how much each statement is true for you. Use the scale below.

1.	I get critical and angry with myself… To make sure I keep up my standards	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

2.	I get critical and angry with myself… To stop myself being happy	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

3.	I get critical and angry with myself… To show I care about my mistakes	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

4.	I get critical and angry with myself… Because if I punish myself I feel better	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

5.	I get critical and angry with myself… To stop me being lazy	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

6.	I get critical and angry with myself… To harm part of myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

7.	I get critical and angry with myself… To keep myself in check	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

8.	I get critical and angry with myself… To punish myself for my mistakes	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

9.	I get critical and angry with myself… To cope with feelings of disgust with myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

10.	I get critical and angry with myself… To take revenge on part of myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

11.	I get critical and angry with myself… To stop my getting overconfident	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

12.	I get critical and angry with myself… To stop me being angry at others	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

13.	I get critical and angry with myself… To destroy a part of me	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

14.	I get critical and angry with myself… To make me concentrate	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

15.	I get critical and angry with myself… To gain reassurance from others	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

16.	I get critical and angry with myself… To stop me becoming arrogant	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

17.	I get critical and angry with myself… To prevent future embarrassments	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

18.	I get critical and angry with myself… To remind me of my past failures	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

19.	I get critical and angry with myself… To keep me from making minor mistakes	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

20.	I get critical and angry with myself… To remind me of my responsibilities	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

21.	I get critical and angry with myself… To get at the things I hate in myself	0	Not at all like me
		1	A little bit like me
		2	Moderately like me
		3	Quite a bit like me
		4	Extremely like me

If you can think of any other reasons why you become self-critical please write them in the space below:

……

……

……

……

……

3.2. ‘Pre-treatment expectations’ scales

How logical does the treatment seem?

0----------10

Not at all Extremely

How confident are you that the treatment will help you reduce your SC?

0 ----------4

Not at all Extremely

3.3. Post-treatment feedback questionnaire

Please complete the following questions in your own time. Please complete them all questions in one sitting to make sure that they are saved. You can go back and change answers before finishing the questionnaire.

Thank you for your help and participation.

Please enter the participant number that was emailed to you.

Has your medication for mental health (depression or anxiety) or sleep changed since the last session *(this could be starting or stopping medication, or a change in dose).*

- ◯ Yes
- ◯ No

Overall, how much of the weekly booklets did you read (approximately)? Please indicate a percentage.

◯ 0 ◯ 10% ◯ 20% ◯ 30% ◯ 40% ◯ 50% ◯ 60% ◯ 70% ◯ 80% ◯ 90% ◯ 100%

On average how much time did you spend doing the homework tasks?

How useful did you find each technique

	Not at all	A little	Somewhat	Quite a lot	Very much	N/A - Didn't try
Compassionate reframe/thought record	○	○	○	○	○	○
Decentering from self-critical thoughts	○	○	○	○	○	○
Changing the situation in which self-criticism occurs	○	○	○	○	○	○
Relaxation exercises	○	○	○	○	○	○
'Compassionate other' imagery	○	○	○	○	○	○
Loving-kindness meditation	○	○	○	○	○	○
'The Compassionate self' (imagining your compassionate self and/or guiding your day with self-compassion	○	○	○	○	○	○
Compassionate actions	○	○	○	○	○	○

What are the most important things that you have gained or learnt during the therapy, if anything?

Is there anything we could have changed (time/ location/ duration/ frequency/format e.g. group, telephone, Skype, etc) that would have made it easier for you to come to sessions?

Please comment on anything else that you found helpful or unhelpful with the following aspects of the intervention:

a. The initial telephone screening

b. The practical arrangements of the sessions

c. The length, content or structure of the sessions

d. The number of sessions

e. The booklets

f. The collection of questionnaires each week on survey monkey

g. Your interactions with your therapist

Please rate the following statements using the scale below:

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
The therapy was useful	○	○	○	○	○
The therapy helped to reduce my self-critical thinking	○	○	○	○	○
The therapy helped improve my ability to cope with my self-critical thinking	○	○	○	○	○
The therapy helped me to improve my self-compassion	○	○	○	○	○
My therapist understood my needs/ difficulties	○	○	○	○	○
I would recommend the intervention to other people with high levels of self-criticism	○	○	○	○	○

Any other comments?

3.4. Follow-up feedback rating scales

Note: These were completed over the telephone during the 2-month follow-up appointment.

Please rate how useful you found each technique since the end of therapy:

	Not at all	**A little**	**Some-what**	**Quite a lot**	**Very much**	**Didn't try**	**Comments**
Scoring	***0***	***1***	***2***	***3***	***4***	***n/a***	
Compassionate reframe/ thought record							
Decentring from self-critical thoughts							
Changing the situation in which self-criticism occurs							
Relaxation exercises (muscle relaxation and deep breathing)							
'Compassionate other' imagery							
Loving-kindness meditation							
'The Compassionate Self' (imagining your compassionate self and / or guiding your day with self-compassion)							
Compassionate actions							

Please rate how often you used each technique, if at all, since the end of therapy.

	Not at all	**Once or twice**	**Several times**	**Once a week**	**Several times a week**	**Every day**	**Comments**
Scoring	***0***	***1***	***2***	***3***	***4***	***5***	
Compassionate reframe/ thought record							
Decentring from self-critical thoughts							
Changing the situation in which self-criticism occurs							
Relaxation exercises (Muscle relaxation and deep breathing)							
'Compassionate other' imagery							
'Compassionate self' imagery							
Guiding your day with self-compassion							
Loving-kindness meditation							
Compassionate actions							

Appendix 4: Recruitment

4.1. Cover letter

South London and Maudsley NHS
NHS Foundation Trust

Southwark Talking Therapies Service (SPTS)
Lower Ground Floor, Eileen Skellern House, Maudsley Hospital
Denmark Hill, London, SE5 8AZ
sptsadmin@slam.nhs.uk
Telephone 020 3228 2194
Fax 020 3228 2473

iapt
Improving Access to Psychological Therapies

ADDRESS
DATE

Dear _____

Subject: Research Study offering therapy to reduce self-criticism.

We are contacting you because our records show that you would like to be informed about new research studies at Talking Therapies Southwark.

We are looking for patients to take part in a study about a course of therapy to reduce self-criticism. Are you often hard on yourself or consider yourself self-critical? If you think that self-criticism is having a bad effect on you or your life and you would like help to reduce self-criticism, then this study may be suitable for you. For more detailed information, please find enclosed an information sheet and a consent form for this study.

One of the researchers, May Elliott-Joshi, can contact you by phone to discuss this study and see if you would be interesting in participating. If you would like to receive this phone call, please do contact Southwark Talking Therapies or email her on may.elliott-joshi@nhs.net .

Yours sincerely,

Dr Janet Wingrove
Clinical Lead
Talking Therapies Southwark

4.2. Information sheet

Research Study Information Sheet

A novel intervention for self-criticism in IAPT services: pilot study

We would like to invite you to participate in this research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

Summary

- This study is testing a new intervention to help reduce distress due to self-criticism. This study is designed for clients at Talking Therapies Southwark who would like individualised sessions to help with their self-criticism.
- Participation is voluntary. You have the right to choose not to participate, or to stop participating in the trial at any point and without consequence to your care, however your data will be retained and reported anonymously as part of this research.
- All the information you provide throughout the trial will be completely confidential for the purposes of this research and no one except the clinicians and supervisors would have access to non-anonymised data.
- However, as per NHS regulations information will be added to your clinical notes, and with your consent it will be shared with your GP. If you disclose any information that suggests you are others were at risk of harm, then the research team would have to share this with your doctor and any other relevant organisations to help keep you/others safe.
- This information sheet is for you to keep. If you decide to participate, you will also be provided with a copy of the signed consent form.
- Frequently asked questions and contact details are listed at the end of this information sheet.
- For any further information, please contact May Elliott-Joshi (mehul.joshi@kcl.ac.uk) or Dr Katharine Rimes (katharine.rimes@kcl.ac.uk).

What is the purpose of this study?

This study is investigating a new intervention for people who would like to reduce their self-critical thinking. This study is part of a doctoral research project. This study is being conducted by May Elliott-Joshi, clinical psychologist in training at the Institute of Psychiatry, Psychology and Neuroscience, together with Dr Katharine Rimes, honorary consultant clinical psychologist and senior lecturer at King's College London and Dr Janet Wingrove, consultant clinical psychologist and clinical director at Talking Therapies Southwark, South London and Maudsley NHS Foundation Trust.

Who can take part?

We are recruiting clients at Talking Therapies Southwark who have expressed an interest in this study to a member of our staff team for the study at Talking Therapies Southwark.

Self-criticism can affect various different areas of our lives including work, studying and relationships. You may be eligible to take part if have opted into Talking Therapies Southwark; and you tend to be self-critical and want help to reduce this, because it causes you distress or other problems. This will be assessed by your scores on questionnaires and a discussion with one of the researchers or therapists over the telephone screening. There are certain reasons why people may not be suitable. If you are not eligible to take part in the study the researcher will explain this to you at the time of the telephone screening and your routine care within the NHS would continue. If you

take part in this study you would need to be available to take part in an assessment session and 5 individual, face-to-face, 60-minute sessions.

Do I have to take part?
It is up to you whether or not you take part. If you do decide to take part, you will be asked to sign a consent form. Having signed the consent form, you are still free to withdraw your participation without giving a reason however your data may still be analysed and reported anonymously for the purposes of this research. A decision to withdraw, or a decision not to take part, will not affect any other care that you may receive within the NHS. Should you withdraw because you are in distress, then you would be signposted to interim support.

What will happen to me if I take part?
The researcher will contact you for a brief telephone call to answer any questions and explain the study. If you are interested, the first thing you will be asked to do is to complete a postal questionnaire/emailed link with some brief questionnaires about your style of thinking and the impact this has on your life. The purpose of this is to determine whether this intervention would be helpful for you. Your answers to these questionnaires will be scored and based on this, we may invite you to a telephone screening which may take up to 1 hour. During the screening we will complete a clinical interview and you will have the opportunity to ask any questions about the research. We will also ask for you to provide your GP details if this information is not already on the system for Talking Therapies Southwark.

If this study is suitable for you and you would like to take part, you will be asked to sign and return the consent form. Prior to the first session you will be emailed a link to a set of questions, which you will be asked to complete in your own time. During the first session you will be asked questions to better understand *your* experiences of self-criticism. This information will help tailor the 5 subsequent treatment sessions to help you develop strategies for better managing your self-critical thoughts. These sessions will also be audio-recorded and you can request a copy of your sessions. You will also be asked to complete a series of questionnaires at different time-points during the intervention. Together these questionnaires will take you up to an hour, in addition to completing the questionnaires needed for routine treatment within Southwark Talking Therapies. We will call you two months after the intervention for a brief telephone follow-up to enquire about your self-criticism and coping techniques, and signpost you to further support from NHS services if required.

New intervention to reduce self-criticism
The help provided will be based on your individual needs and will draw on elements of cognitive behaviour therapy (CBT) and compassion focused therapy (CFT).

You will be taught a range of exercises and strategies to reduce your self-critical thinking and increase your self-compassion. Being self-compassionate means adopting the qualities of kindness, warmth, strength and non-judgement and directing them towards the self. Self-compassion is a skill that we can all develop further. These sessions will help you to become aware of and to understand why your self-criticism has developed. You will be given information about the benefits of self-compassion.

The benefit of having individual sessions is that the intervention can be adapted to suit your individual needs. You will also be able to troubleshoot any difficulties you may encounter in a safe and confidential space. You will only be encouraged to use methods that feel ok for you. As this is a new intervention we are keen to receive feedback at all stages.

Data and audio-recording
In order to be able to analyse the data from the study, we will ask for your consent for members of the research team to have access to your questionnaire responses. This is essential to maintain the quality of our research and if you do not wish to provide consent for audio recordings of sessions, you would not be eligible for the study. All of your completed questionnaire responses will be anonymised by labelling them with a unique identification number. They will be stored securely at King's College London. We will also ask your permission to audio record the sessions, for supervision purposes and so that we can check that the sessions were being run according to the research protocol; they will then be destroyed. Quotes may be used when reporting the findings, however they will not contain any identifying information about you.

Confidentiality – who will know that I am taking part in this study?
All information relating to you participating in this study will be securely stored, either on a password-protected computer at King's College London, or locked in a filing cabinet. No completed questionnaires will be labelled using your name or any other identifiable information. Instead, each questionnaire will be labelled with a unique identification number. The only people who will have access to your data from the study will be the research team. You will be offered the same clinical confidentiality as other clients in this NHS service – your information may be shared with your GP and will be held on a computerised clinical database used in Talking Therapies Southwark.

Other forms of help for self-criticism
You can seek other forms of help for psychological distress from Talking Therapies Southwark if you choose not to take part in this study. We ask that you do not have any other form of help (e.g. counselling) for your self-criticism during the time that you are attending the intervention sessions, otherwise we will not be able to tell whether there has been any impact of the help that we have provided. For the same reasons, we also ask that you do not participate in another clinical trial or undertake another psychological intervention whilst you are participating in this study. If you take part, you can continue taking any medication. If you are taking antidepressant medication, you need to have been on a stable dose for at least 1 month before starting this study. If you do take part but require further support at the end of this trial, this will be offered to you.

What are the possible risks or disadvantages of taking part?
As with any form of help that focuses on psychological issues, you may sometimes feel emotionally distressed. The clinicians have experience in delivering one-to-one therapy and will help you to develop methods for managing distress.

A possible disadvantage is the inconvenience of the questionnaires and interviews. These have been kept to a minimum and will be done in a way that is as convenient for you as possible. It is also possible, though unlikely, that you might experience some emotional distress as a result of completing some of the questionnaires. Support will be available to you in this event.

What are the potential benefits of taking part?
If you decide to take part, then you will be offered help for negative effects of self-criticism. Whilst we expect this form of help to be of benefit to you, we cannot guarantee this. If of interest, we can send you a copy of the final report on the research study.

It is up to you to decide whether to take part or not. If you decide to take part, you are still free to withdraw from the study at any time and without giving a reason.

Thank you for taking time to read this information pack.

Frequently Asked Questions

What will happen to the results of the study?
The results of the study will be written up as part of the researcher's thesis, and submitted to a peer reviewed journal and potentially a conference. Results will also be shared on www.clinicaltrials.gov as per recommendations by the Health Research Authority.

What will happen if I don't want to carry on with the study?
You are able to withdraw from treatment or the study at any stage. You may decide that you would like to continue with the intervention, but not complete the questionnaires and interviews. If you withdraw from treatment, with your permission, we would also like you to complete post-intervention questionnaires despite you not completing the individual sessions. However, you will retain the right not to do this if you so choose.

Who is organising and funding this study?
This study is part of the Doctoral training in Clinical Psychology programme at the Institute of Psychology, Psychology and Neuroscience (IOPPN) at King's College London. The research is being funded by King's College London and South London and Maudsley NHS foundation Trust. The doctoral training programme is funding the costs of undertaking this research however the researchers involved are not being paid specifically for their role in this study.

Who has reviewed this study?
To protect your interests, all research within the NHS is looked at by an independent group of people, called a Research Ethics Committee (REC). This study has been given a favourable opinion by the London Bromley REC (reference number 17/LO/0335).

How have patients and the public been involved in this study?
The overall study design, Consent Form and Information Sheet have been reviewed by the Patient and Public Involvement body, Feasibility And Support to Timely recruitment for Research (FAST-R). We have also sought feedback from potential participants through the Talking Therapies Southwark Service User Feedback Forum (SUFF).

For Further Information

If you have any questions or would like any further information about the study, please do not hesitate to contact May Elliott-Joshi (Mehul.joshi@kcl.ac.uk), Dr Katharine Rimes (katharine.rimes@kcl.ac.uk) or Dr Janet Wingrove (Janet.Wingrove@slam.nhs.uk). If this study has harmed you in any way, you should contact any of the above-named people. If you remain unhappy, you have the right to complain to King's College London about any aspects of the way you have been approached or treated during the course of this study.

4.3. Consent form

RESEARCH STUDY CONSENT FORM

Title of Study: A novel intervention for self-criticism in IAPT services: pilot study

Thank you for considering taking part in this study. Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research and any questions have been answered. You will be given a copy of this Consent Form.

I confirm that I understand that by initialling each box I am consenting to participate in this study. I understand that it will be assumed that any uninitialled boxes mean that I DO NOT consent to take part in the study.	Please initial here
1. I confirm that I have read the information sheet dated [v2 3.3.17] for the above study. I have had the opportunity to consider the information and asked questions which have been answered satisfactorily.	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason without my medical care being affected. Any information provided prior to withdrawal may be used anonymously for the purposes of this research only.	☐
3. I give permission for the researcher to inform my care team (Talking Therapies Southwark and GP) that I am taking part in the project and provide information relevant to my care. I understand that my participation in the project will be recorded in my electronic notes at Talking Therapies Southwark.	☐
4. Data collected during the project may be looked at by the researchers on the project. I give permission for these individuals to have access to my personal data. Data will be stored securely in accordance with the Data Protection Act 1998.	☐
5. I understand that anonymity will be maintained and it will not be possible to identify me in any publications. The information I have submitted will be published as a report and I could ask to receive a copy if I wish.	☐
6. I understand the limits to confidentiality – clinical confidentiality will be broken if there is a risk of harm to myself or others in accordance with NHS policy.	☐
7. I consent to my interview being audio recorded. Some of my sessions may be listened to by one of the research team for supervision and quality control purposes.	☐

Name of Participant	Date	Signature

I have explained the project to the participant and have answered their questions honestly and fully.

Name of Person taking consent	Date	Signature

IRAS reference: 215147 v2 3.3.17

Participant Identification Number:

Appendix 5: Overview of session protocols

	Session content

Session 1	• Agenda setting
	• Obtain consent form, explain confidentiality, and set-up sessions
	• Assessment of self-criticism and if relevant, risk assessment
	• Review of self-criticism
	  ○ The possible effects on thoughts, feelings, physiology and behaviours;
	  ○ The difference between unhelpful self-critical thinking vs. helpful self-corrective thinking;
	  ○ Self-criticism as a habit, i.e. a response to specific situations and emotional states.
	• Developing shared formulation about self-criticism.
	• Psychoeducation about self-compassion approach
	  ○ Distinction between old and new brain;
	  ○ Three emotion regulation systems in brain;
	  ○ Self-criticism and the three emotion regulation systems.
	• Goal of intervention and pre-treatment expectations
	  ○ Aim: reduce/learn to cope with self-criticism;
	  ○ General overview of future sessions;
	  ○ Motivational Interviewing (MI) confidence and importance ratings.
	• Homework setting
	  ○ Self-monitoring of self-critical thinking;
	  ○ Completing the 'self-criticism summary';
	  ○ Reading booklet 1.

Session 2	• Agenda setting, check in and homework review
	• Introduction to self-compassion
	  ○ The teacher metaphor;
	  ○ Definitions of self-compassion;
	  ○ Compassionate attributes – care for wellbeing; sensitivity to distress; sympathy; empathy; acceptance and non-judgement of emotions, and distress tolerance;
	  ○ Compassionate skills – compassionate attention, reasoning, sensations, imagery, behaviour and emotions;
	  ○ Common fears of self-compassion.
	• Using a self-compassionate thought record to develop a compassionate reframe to self-critical thoughts
	• Homework setting
	  ○ Completing further self-compassionate thought records;

	○ Reading booklet 2.
Session 3	• Agenda setting, check in and homework review • Decentring from the content of self-critical thoughts • Changing the situation in which self-criticism occurs ○ Exploration of the contextual triggers of self-criticism; ○ Planning a behavioural experiment to change the situation to reduce the likelihood of self-critical thinking. • Relaxation: Using Progressive Muscle Relaxation (PMR) and/or deep diagrammatic breathing to 'dampen down' the threat system. • Homework setting ○ Continuing with strategies from previous sessions (if appropriate); ○ Changing the situation – behavioural experiment; ○ Using decentring in response to self-criticism; ○ Practicing relaxation exercises; ○ Reading booklet 3.
Session 4	• Agenda setting, check in and homework review • Developing a 'compassionate other image' ○ Rationale for compassionate imagery – links to how the brain processes thoughts and images; ○ Compassionate other image – therapist read through and audio recorded script for participant. Script included physical attributes of image and specific compassionate attributes of the image; ○ Discussion about how to use compassionate other image in response to self-criticism, for example, developing the image further by listening to the script, or using the image to help develop compassionate reframes to difficult situations (i.e. "what would my compassionate image say to me?") • Homework setting ○ Continuing with strategies from previous sessions (if appropriate); ○ Using the compassionate other image in response to self-criticism; ○ Reading booklet 4.
Session 5	• Agenda setting, check in and homework review • Developing the 'compassionate self'

	○ Rationale for the compassionate self – different 'mindsets' (patterns of thoughts, feelings and behaviours that we switch in and out of); ○ Use of method acting; ○ Accessing the compassionate self (1) - therapist read through script for participant. Script included accessing own compassionate qualities. Participant then reflected on questions about different aspects of the compassionate self, including their thoughts, feelings, approach to their distress or difficult emotions, behaviours and bodily sensations; ○ Accessing the compassionate self (2) - therapist read through and audio recorded script for participant. Script incorporated participant responses from earlier exercise about their compassionate self. ○ Discussion about how to use the compassionate self in response to self-criticism, for example, by listening to the script, or by 'guiding their day with self-compassion'. • Homework setting ○ Continuing with strategies from previous sessions (if appropriate); ○ Further developing their compassionate self by listening to the audio-recording and/or by guiding their day with self-compassion; ○ Reading booklet 5.
Session 6	• Agenda setting, check in and homework review • Review of all previous strategies and developing a plan of how to use the strategies between now and the follow-up appointment. Also identifying what could get in the way of being self-compassionate and possible times or situations where they might be less likely to be self-compassionate. • Completing the Loving Kindness Meditation – therapist read through and discuss how to implement at home. • Guiding the day with self-compassion – briefly introduce and discuss how to implement at home. • Ending the intervention ○ Discussions about alternative sources of support (if appropriate); ○ Arranging telephone follow-up appointment; ○ Discussions about collection of feedback on the intervention.
Follow-up	• Agenda setting; • General check in and review risk

	• Specific discussion about current frequency, intensity and impact of self-criticism • Review of plan about intervention strategies, including usefulness and frequency ratings of each technique, and plan of how to use strategies going forward • Option to practice any of the strategies • Ending the intervention, including discussions about further sources of support or discharge back to GP.

Appendix 6: Session materials

Note: copies of booklets are not provided due to copyright.

6.1. Formulation sheet

Completed in session 1

Self-Criticism Summary Form

Early Influences	**Key fears**	**Coping strategies**	**Intended consequences**	**Unintended consequences**
	External fears			
	Internal fears			

6.2. Therapy summary sheet

Completed in session 6

Self-Criticism Therapy – A Summary

Summary of what I have learnt

- How did my self-criticism develop and what kept it going?

- What are the most important things I have learnt in therapy?

- What can I do decrease my self-criticism and be more self-compassionate?

Planning for high risk situations

- What are the situations that will make it likely that I will become more self-critical?

- What signs will help me recognise this is happening?

- What can I do to become more self-compassionate at this time?

6.3. Follow-up proforma

Completed by therapists during the telephone follow-up session

2-month telephone follow up proforma

Date:

Ptp ID:

General check in

Self-criticism check in

Discussion about agreed plan and use of strategies

1) Ratings of usefulness over the last 2 months

2) frequency over the last two months

3) Review of each item on plan

Practice strategy (optional)

How to take plans forward

Relapse prevention

6.4. Risk management plan

Crisis Plan

If you are feeling extremely distressed or feel like you may harm yourself and you do not feel able to wait until your next appointment, there are a number of things you can do to help.

Triggers

Warning signs

What I need to do when I notice these warning signs

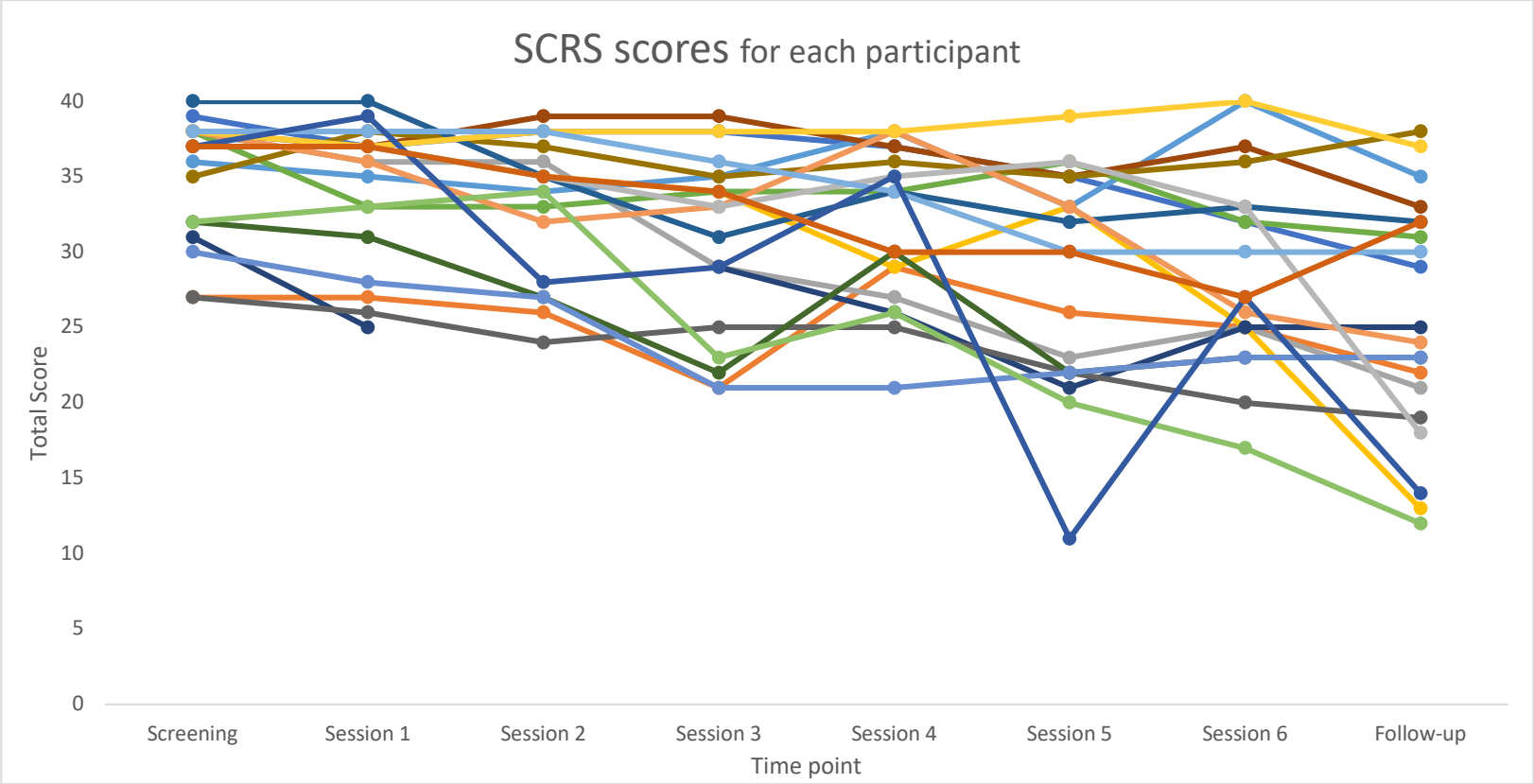
Who would it be helpful for me to share this plan with?

Date:
Signed:

Appendix 7: Treatment scores for each participant's primary outcomes and process measures

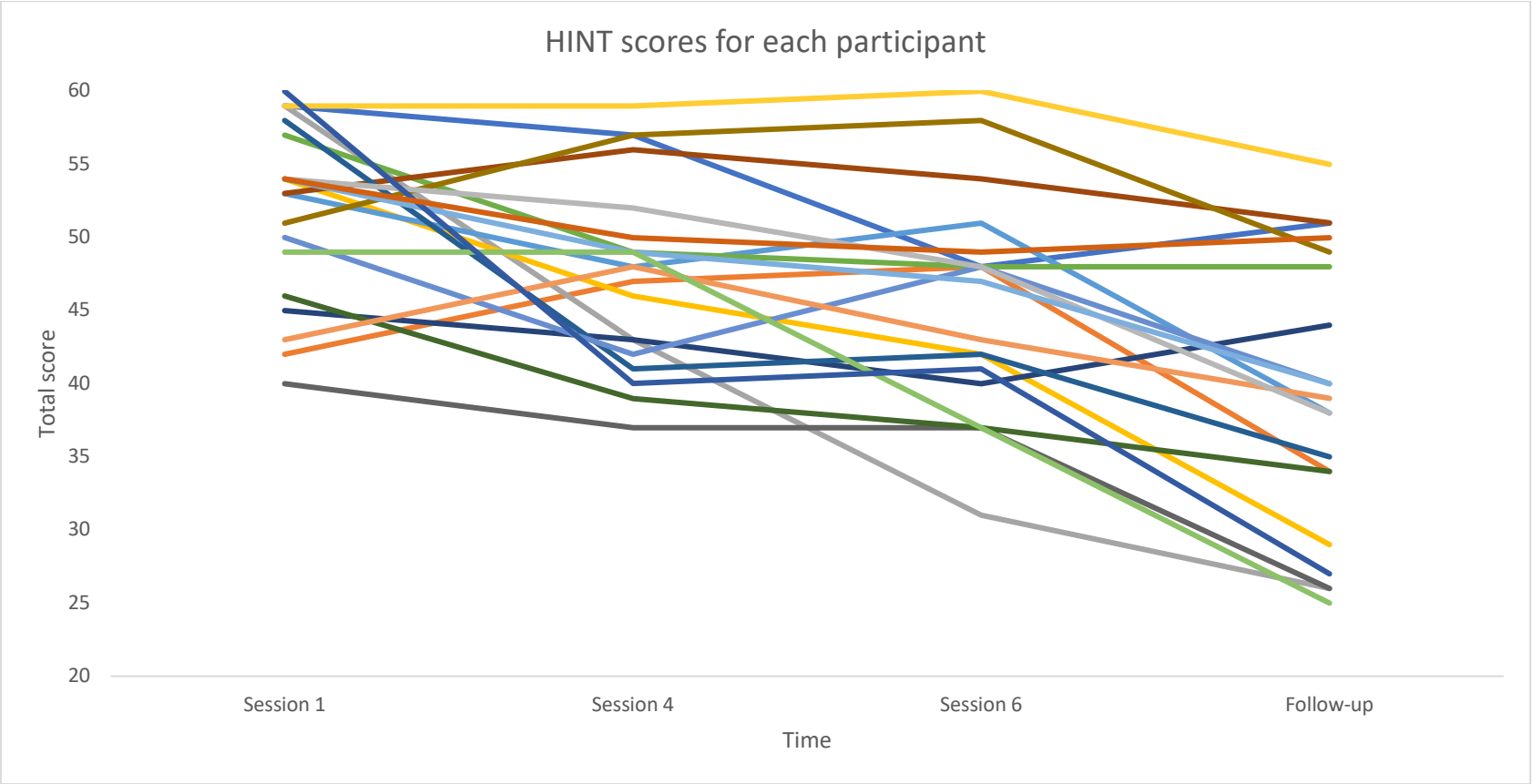
Self-Critical Rumination Scale (SCRS)

Primary outcome measure; higher scores indicate greater levels of self-critical rumination; scores range from 0-40.



Habitual Index of Negative Thinking (HINT)

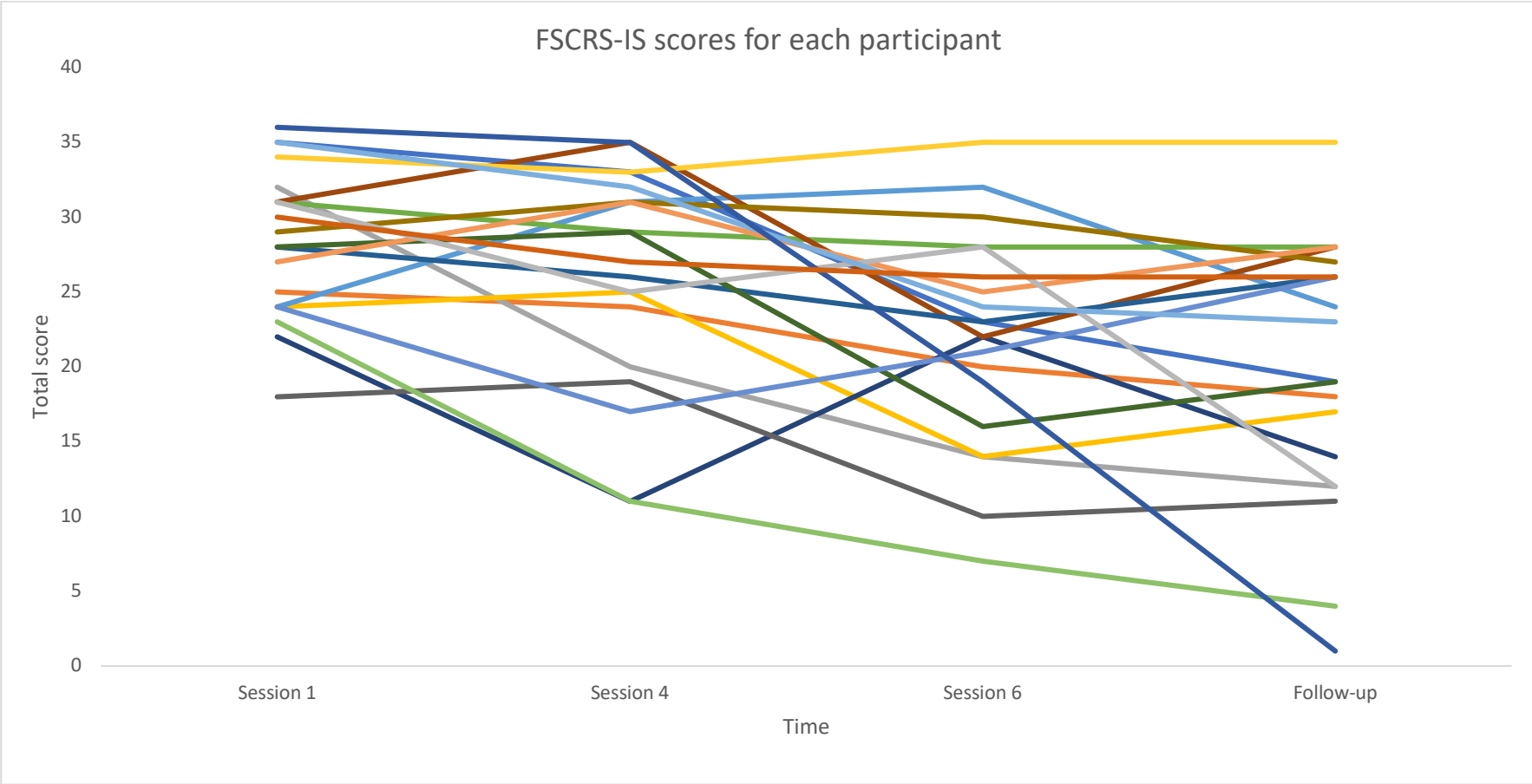
Primary outcome measure; higher scores indicate greater functional impairment due to self-criticism; scores range from 0-60.



Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS)

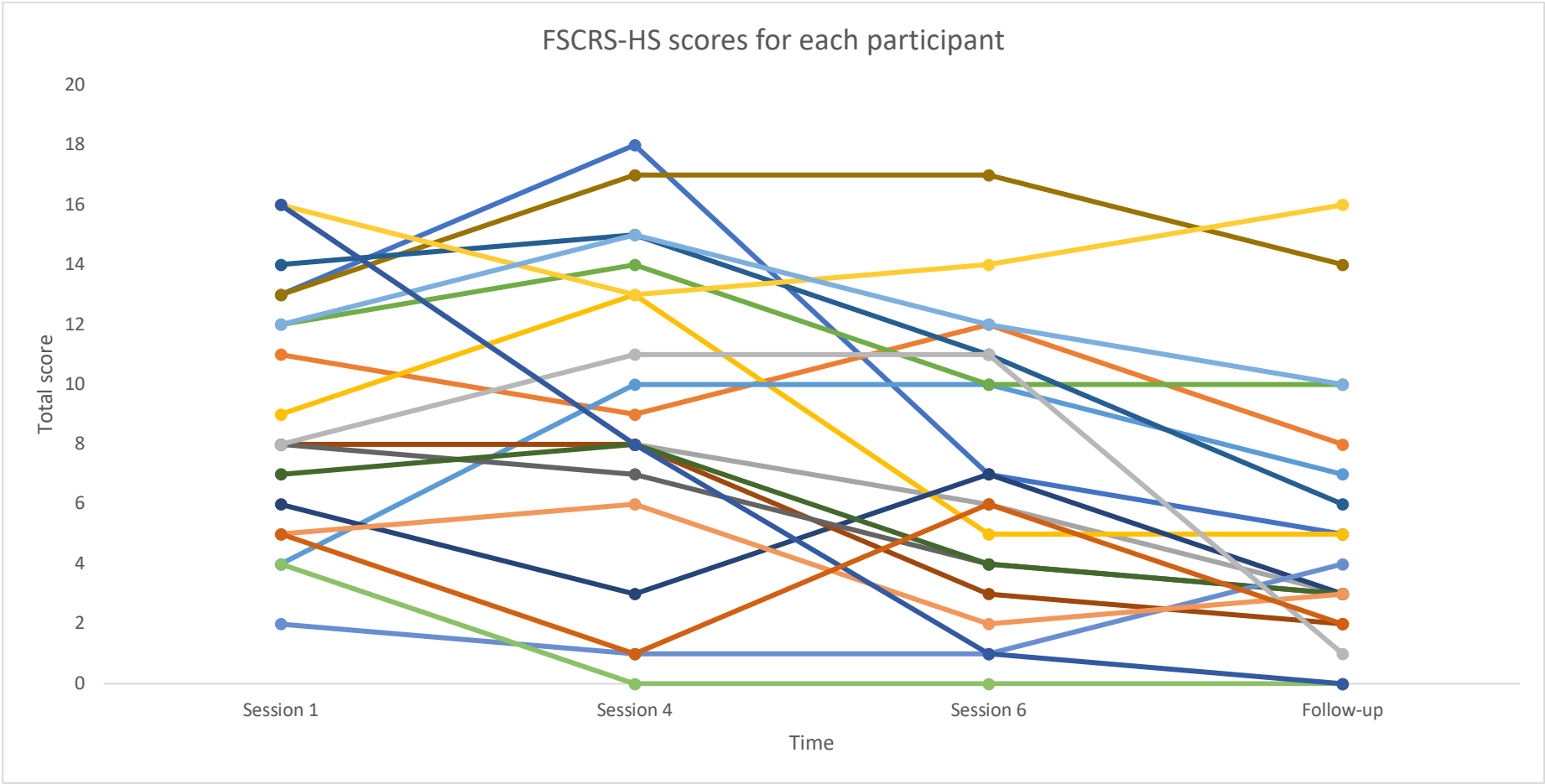
Insecure Self-subscale (FSCRS-IS)

Primary outcome measure; scores indicate higher self-criticism focused on self-inadequacy, self-disappointment and rumination; scores range from 0-36 comprising of items 1, 2, 4, 6, 7, 14, 17, 18, and 20.



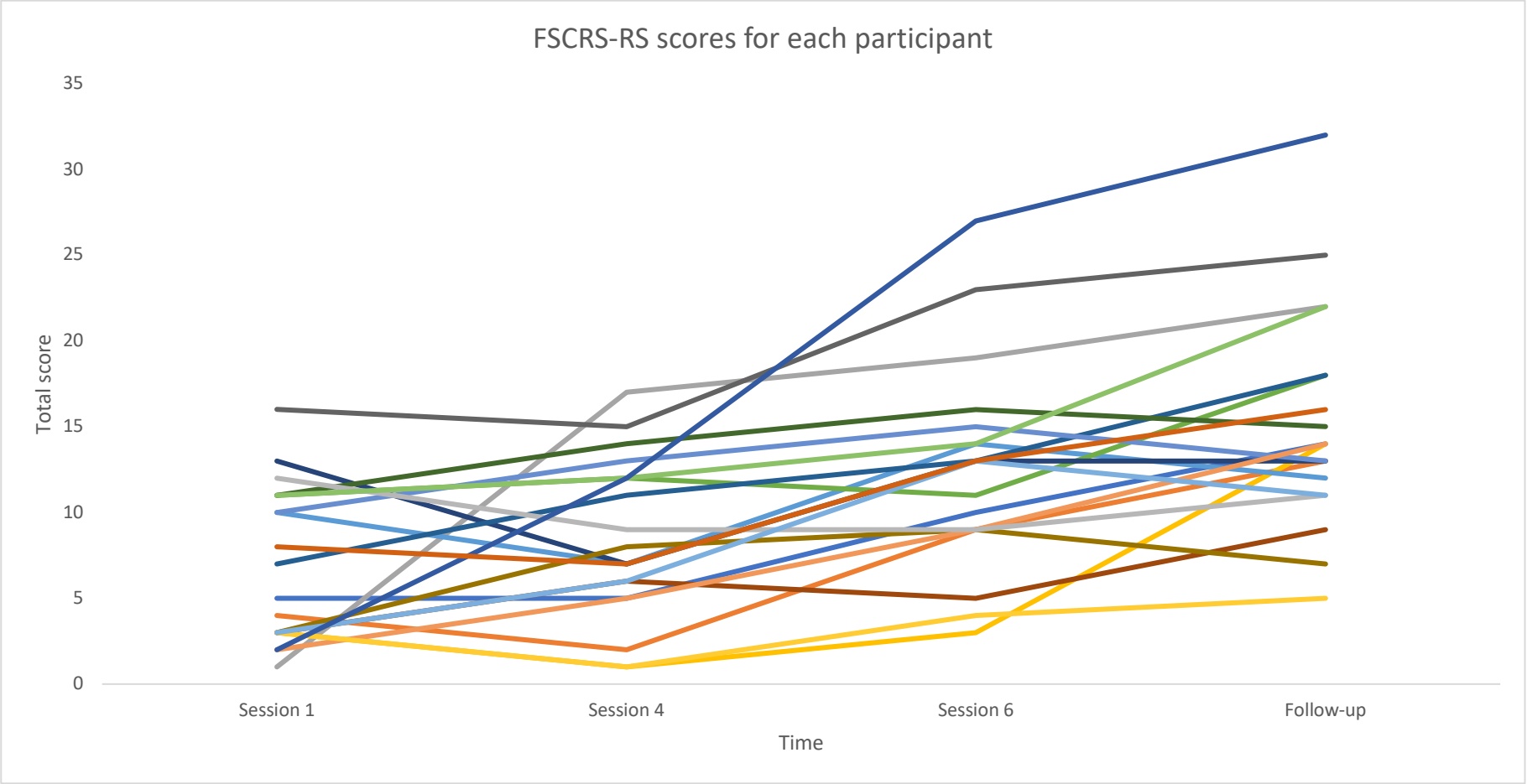
Hated Self subscale (FSCRS-HS)

Primary outcome measure; higher scores indicate greater levels of self-criticism, focused on self-dislike and wanting to hurt oneself; scores range from 0-20. comprising of items 9, 10, 12, 15, and 22.



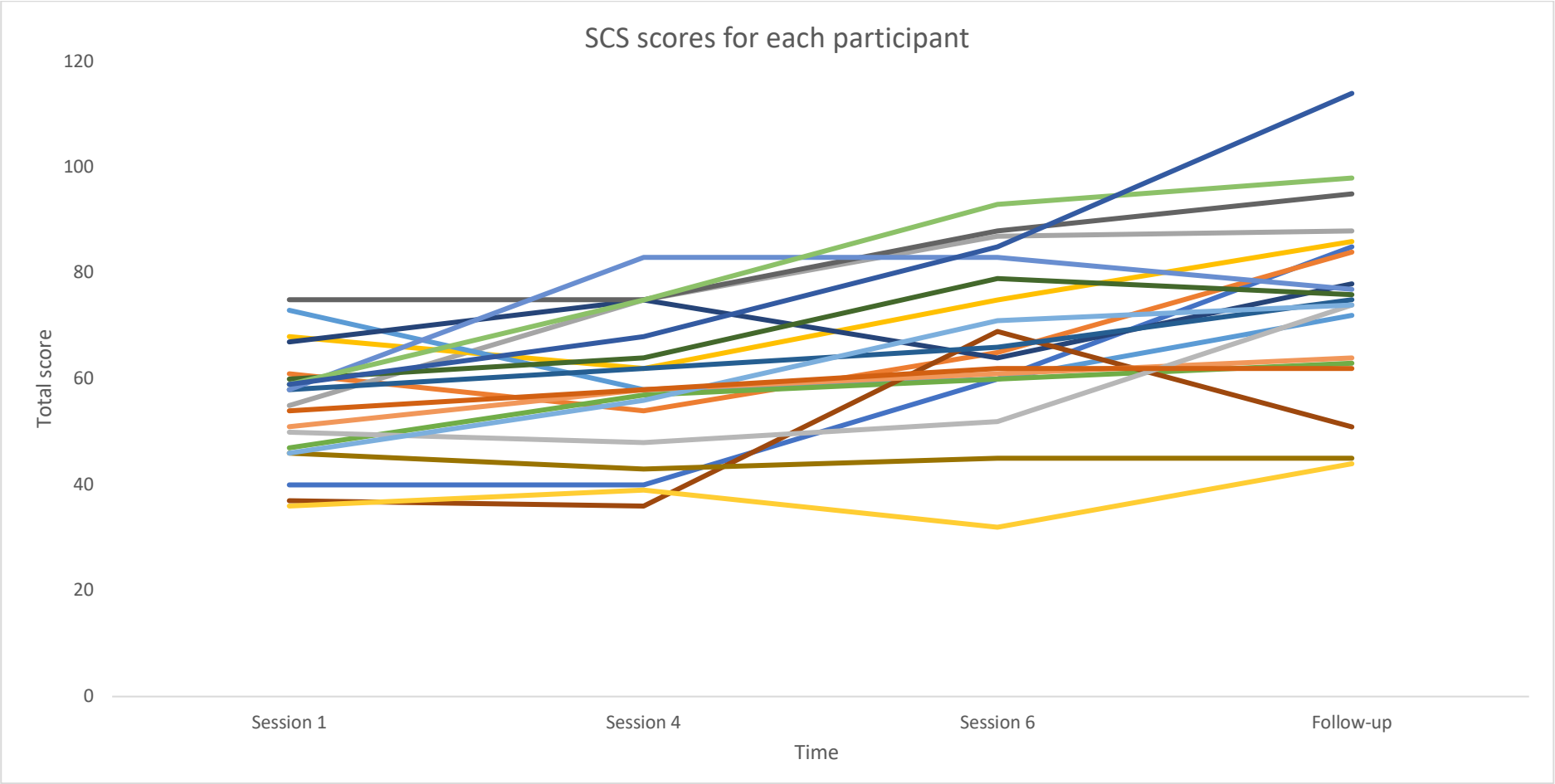
Reassured Self subscale (FSCRS-RS)

Process measure; lower scores indicate fewer self-soothing and self-reassuring responses to difficulties; scores range from 0-32 comprising of items 3, 5, 8, 11, 13, 16, 19, and 21.



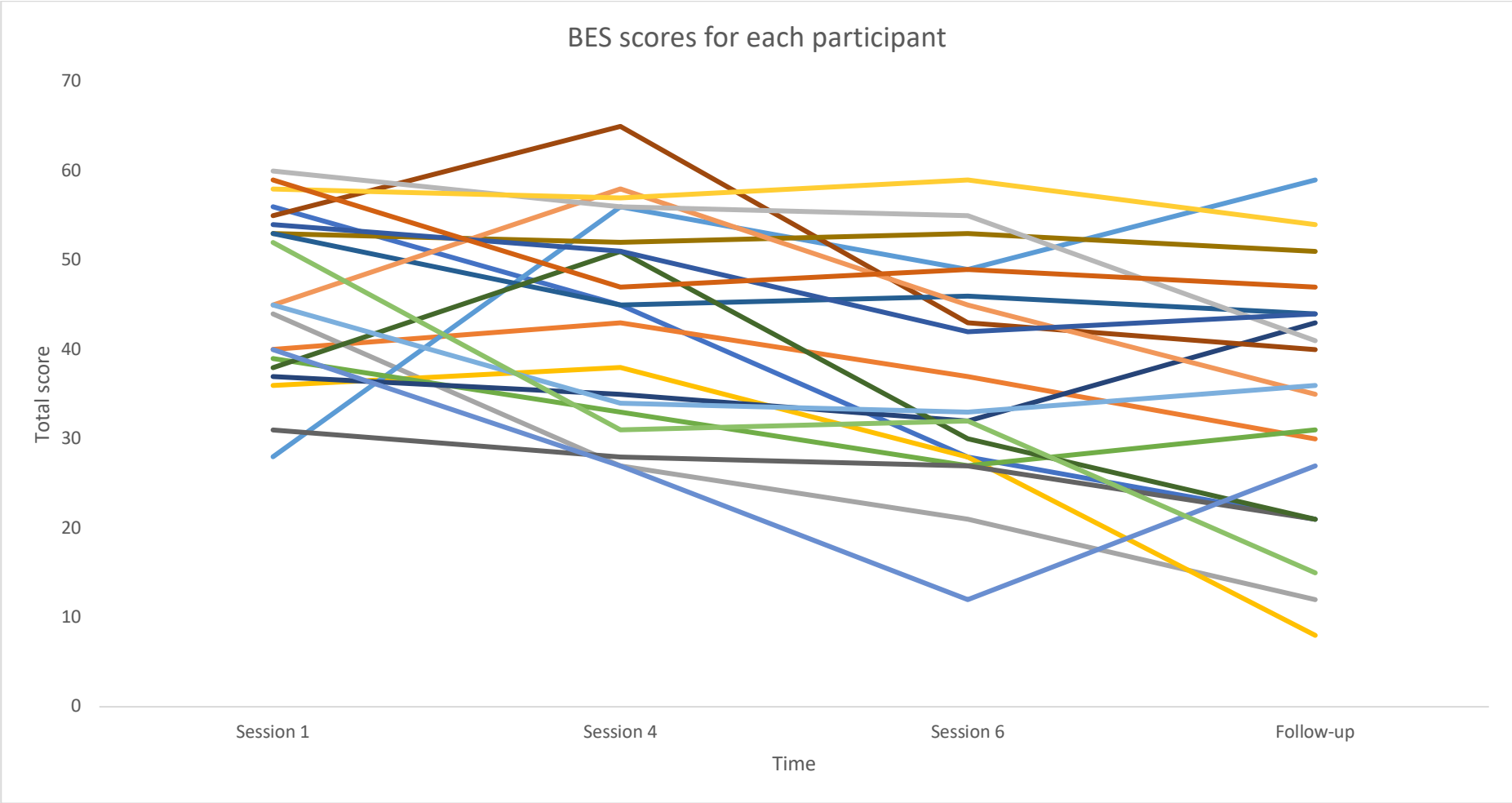
Self-Compassion Scale (SCS)

Lower scores indicate lower levels of self-compassion; scores range from 0-130.



Beliefs about Emotions Scale (BES)

Process measure; higher scores indicate more negative beliefs about the unacceptability of negative emotions; scores range from 0-72.



Appendix 8: Data preparation

Variables without normal distribution

Total and sub-scale scores from *screening, pre-treatment/session 1, mid-treatment/session 4, post-treatment/session 6, and follow-up*

- SCRS: screening, pre-treatment
- PHQ9: mid-treatment
- FSCRS-RS: pre-treatment
- FSCRS-IS: mid-treatment
- FSCRS-HS: follow-up

Change scores

- GAD7: Pre-treatment changes (session 1 – screening)
- FSCRS-RS: Post-treatment changes (session 6 – session 1)
- Follow-up changes (follow-up – session 1)
  - SCRS
  - PHQ9
  - HINT
  - BES
  - FSCRS-RS
  - FSCRS-IS
- Follow-up only changes (follow-up – session 6)
  - SCRS
  - PHQ9

Variables with outliers

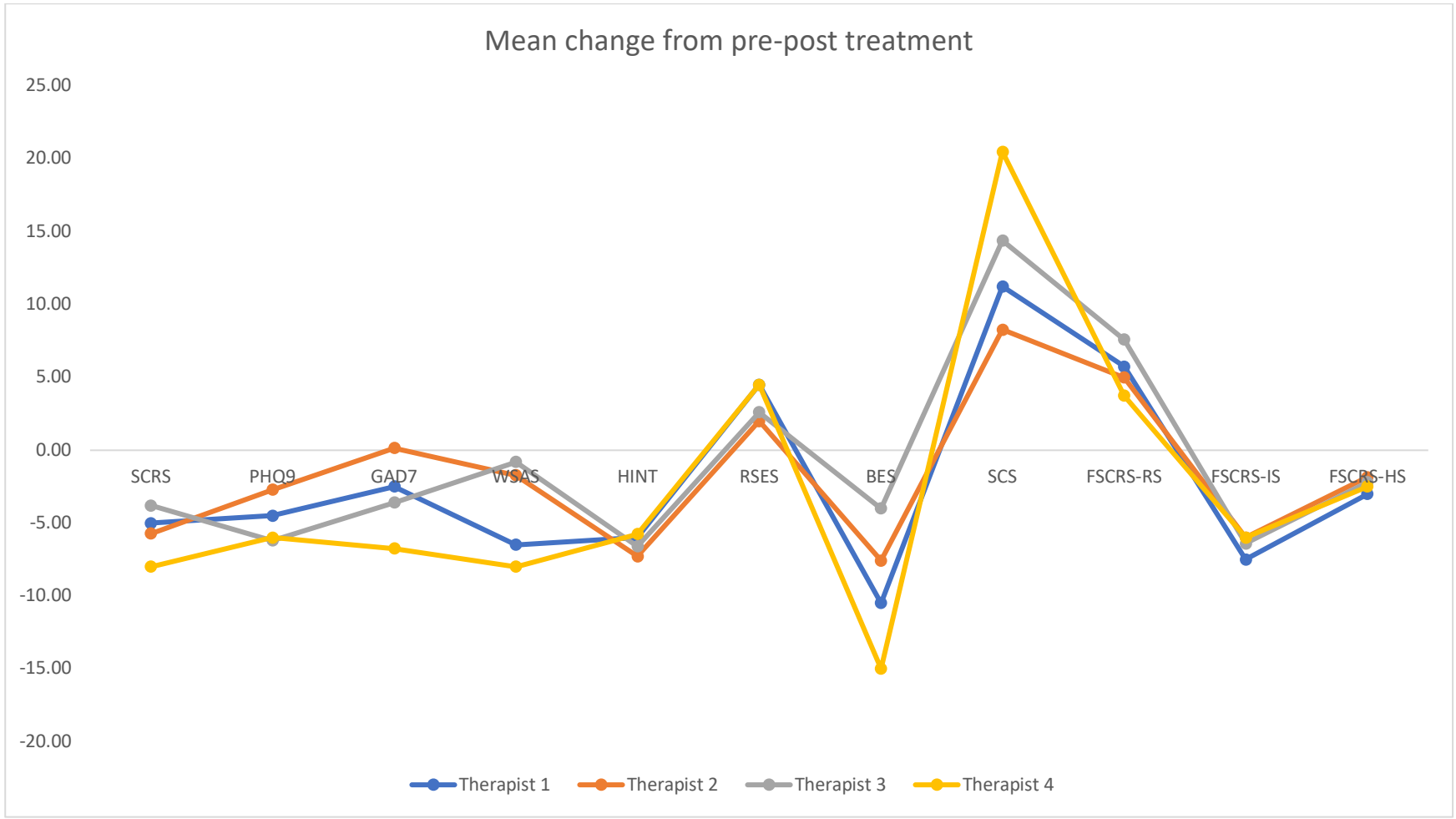
Post-treatment changes FSCRS-RS (n = 1)
Follow-up changes BES (n=1)

Data used for the statistical analyses presented

Statistical analyses	**Data used for analyses**
ANOVAs	Total scores
Planned contrasts (effect sizes)	Total scores (effect sizes: all change scores)
t-tests comparing differences in size of change	Change scores – pre-treatment; post-treatment; follow-up changes
Correlations	Post-treatment change scores
Regressions – waiting time; treatment time	Post-treatment change scores
Regressions – follow-up time	Follow-up only change scores

Appendix 9: Therapist effects

Mean change from pre-post treatment (session 6 – session 1) on each questionnaire for the four trial therapists.



Mean change scores from pre-post treatment (session 6 – session 1) on each questionnaire for the four trial therapists.

	Mean change scores (session 6 – session 1)										
	SCRS	PHQ9	GAD7	WSAS	HINT	RSES	BES	SCS	FSCRS-RS	FSCRS-IS	FSCRS-HS
Therapist 1	-5.00	-4.50	-2.50	-6.50	-6.00	4.50	-10.50	11.25	5.75	-7.50	-3.00
Therapist 2	-5.71	-2.71	0.14	-1.71	-7.29	2.00	-7.57	8.29	5.00	-6.00	-1.86
Therapist 3	-3.80	-6.20	-3.60	-0.80	-6.60	2.60	-4.00	14.40	7.60	-6.40	-2.20
Therapist 4	-8.00	-6.00	-6.75	-8.00	-5.75	4.50	-15.00	20.50	3.75	-6.00	-2.50

Appendix 10: Results of regression analyses

Results of regressions investigating the effects of baseline, treatment and follow-up duration on outcomes. Symptomatic changes at post-treatment (change in scores from pre- to post-treatment) were regressed upon 'baseline duration' (time between screening and pre-treatment) and 'treatment duration' (time between pre- and post-treatment). Symptomatic changes at follow-up (change in scores from post-treatment to follow-up) were regressed upon 'follow-up duration' (time between post-treatment and follow-up).

Dependent variable	**Independent variable**	***F*(1,18)**	***p***
SCRS-change: Post-treatment	Baseline duration	0.38	0.55
Post-treatment	Treatment duration	0.17	0.69
Follow-up	Follow-up duration	0.25	0.62
PHQ9-change: Post-treatment	Baseline duration	0.40	0.53
Post-treatment	Treatment duration	0.14	0.71
Follow-up	Follow-up duration	0.08	0.78
GAD7-change: Post-treatment	Baseline duration	0.02	0.88
Post-treatment	Treatment duration	0.61	0.45
Follow-up	Follow-up duration*	1.11	0.31
WSAS-change: Post-treatment	Baseline duration	0.00	0.99
Post-treatment	Treatment duration	0.02	0.89
Follow-up	Follow-up duration	0.58	0.46
HINT-change: Post-treatment	Baseline duration	2.24	0.15
Post-treatment	Treatment duration	0.10	0.76
Follow-up	Follow-up duration	4.04	0.06
RSES-change: Post-treatment	Baseline duration	1.28	0.27
Post-treatment	Treatment duration	1.03	0.32
Follow-up	Follow-up duration	1.89	0.19
BES-change: Post-treatment	Baseline duration*	2.06	0.17
Post-treatment	Treatment duration	3.01	0.10
Follow-up	Follow-up duration	0.01	0.92
SCS-change: Post-treatment	Baseline duration	0.95	0.34
Post-treatment	Treatment duration	1.93	0.18
Follow-up	Follow-up duration	0.01	0.91
FSCRS-RS-change: Post-treatment**	Baseline duration	0.60	0.45
Post-treatment**	Treatment duration	0.30	0.59
Follow-up	Follow-up duration	0.06	0.81
FSCRS-IS-change: Post-treatment	Baseline duration	0.38	0.55
Post-treatment	Treatment duration	0.08	0.79
Follow-up	Follow-up duration	0.01	0.92
FSCRS-HS -change: Post-treatment	Baseline duration	0.63	0.44
Post-treatment	Treatment duration	0.44	0.52
Follow-up	Follow-up duration*	1.06	0.32

**These regression models deviated significantly from normality, p values ranged from 0.005 to 0.30;*

***analyses were repeated excluding the outlier but yielded the same result.*

Appendix 11: Results of Work and Social Adjustment Scale (WSAS) item scores

Scores reflect responses collected from all 20 participants across the 5 time-points included in analyses (screening, pre-treatment baseline at session 1, mid-treatment at session 4, post-treatment at session 6, and 2-month follow-up) i.e. 100 responses (20 participants X 5 time-points). Scores on each item indicate level of functional impairment due self-criticism in five different domains; scores range from 0-8 (0 = 'not at all'; 8 = 'very severely').

WSAS Scores across participants from screening, 1, 4, 6, and follow-up

Item no. *functional domain*	***1.*** *Work*	***2.*** *Home*	***3.*** *Social*	***4.*** *Private*	***5.*** *Relationships*
Mean	3.91	2.56	3.96	3.28	4.28
SD	2.00	2.18	2.14	2.37	2.49

Systematic Literature Review

Examining the relationship between self-criticism and self-esteem: A systematic review of the literature

Supervised by Dr Katharine Rimes and Dr Janet Wingrove

Abstract

Introduction: Self-criticism and self-esteem occur on a continuum across the population, with high self-criticism and low self-esteem considered transdiagnostic risk factors for an array of mental health problems in children and adults. Despite consistent findings of an inverse relationship between self-criticism and self-esteem a systematic evaluation of the evidence base is lacking. This systematic literature review aims to evaluate the strength of this inverse association and review the similarities and differences in children, adults, the general population and clinical groups.

Method: A systematic review was conducted across four online databases to find studies on both self-criticism and self-esteem. This broad search yielded 970 original research articles. After screening, 23 articles meet eligibility criteria and reported an association between self-criticism and self-esteem; the quality of these studies was reviewed.

Results: The median correlations reported were -0.61 across studies (n=22), -0.55 for children (n=6), -0.62 for adults (n=17), -0.56 for the general population (n=15), and -0.68 for studies involving clinical or high-risk groups (n=8). Differences by potential sociodemographic confounders such as gender and ethnicity were rarely reported. The research was predominantly on adults and non-clinical groups, with Caucasian, female students being overrepresented, and few studies received high quality ratings.

Conclusion: The current evidence base provides evidence for a robust inverse association between self-criticism and self-esteem that is likely to be strong in size. However, studies were typically of weak quality, and replication using stronger methodology may reduce the strength of the correlation found. There is preliminary evidence that the relationship is similar in children and adults. There was not sufficient evidence to address differences between clinical and non-clinical populations. However, future research should confirm these findings using higher quality research to explore differences in the strength of the relationship between self-criticism and self-esteem across clinical and non-clinical groups, understand the reasons for potential differences in the relationship, and evaluate this relationship longitudinally.

Table of contents

1. Introduction 132

1.1. Self-criticism 132

1.2. Self-esteem 134

1.3. The relationship between self-criticism and self-esteem 137

1.4. Rationale and aims 139

2. Method 140

2.9. 2.1. Search strategy 140

2.10. 2.2. Eligibility 140

2.11. 2.3. Study selection 141

2.12. 2.4. Data extraction and quality assessment 141

3. Results 151

3.1. Study selection 151

3.2. Overview of studies 152

3.2.1. Design 152

3.2.2. Sample characteristics 152

3.2.3. Measures 153

3.2.4. Analyses 160

3.2.5. Study quality 160

3.3. Narrative synthesis of study findings 162

3.3.1. Strength of the association between self-criticism and self-esteem 162

3.3.2. Sociodemographic factors 163

3.3.3. Psychological distress and clinical groups 163

3.3.4. Stability over time 164

4. Discussion 165

4.1. Population differences 165

4.1.1. Developmental perspective 165

4.1.2. Associations with other sociodemographic variables 165

4.1.3. Clinical and high-risk groups 166

4.2. Stability of the association between self-criticism and self-esteem 167

4.3. Differences by measurement instrument 167

4.3.1. Measures of self-criticism 167

4.3.2. Measures of self-esteem 169

4.4. Quality assessment findings of the included studies 169

4.5. Quality, strengths and limitations of included articles 170

4.6. Strengths and limitations of this review 170

4.7. Future research and recommendations 171

4.8. Conclusions 171

5. References 173

List of figures and tables

Figure 1: PRISMA (2009) Flowchart…… 151

Table 10: Data extracted for articles included in the narrative synthesis……..142

Table 2a: Information about measures of self-criticism reported (presented alphabetically)……155

Table 2b: Information about measures of self-esteem reported (presented alphabetically) ……..159

Table 3: Quality assessment adapted from EPHPP quality assessment tool……161

Table 4: Quality assessment ratings. ……..161

1. Introduction

1.1. Self-criticism

Self-criticism involves negative self-evaluative thought and has been defined as 'a conscious evaluation of one-self that can be a healthy and reflexive behaviour' (Kannan & Levitt, 2013). Self-criticism is considered to occur on a continuum; when self-critical thinking is specific and reflective it can be considered self-corrective and is essential for learning from one's mistakes and improving future behaviour and performance. However, it also can have harmful effects and consequences for an individual, especially if it typically involves overly harsh global negative self-judgements and self-doubt (Blatt, 1974; Gilbert, Clarke, Hempel, Miles & Irons, 2004; Shahar et al., 2012).

Although self-criticism can be a state phenomenon that it is possible to induce experimentally (Cristea, Tatar & Lucacel, 2014), the evidence base largely reports on the tendency to be self-critical (Blatt, 1974; Gilbert et al., 2012; Shahar, 2015). This tendency has been considered by some researchers to be a personality trait. For example, it has been argued that highly self-critical individuals are characterised by uncompromising demands for high standards, and self-derogation and hostility when these are inevitably not met (Shahar, 2015). Blatt (1974, 2004) argues that there is a form of personality trait characterised by self-critical perfectionism that predisposes people to depression. Blatt's psychodynamic conceptualisation of highly self-critical individuals suggests that, fearing failure, they are driven to achievement but remain unsatisfied with their performance, easily construing themselves as inferior or failures. Self-critics are hypothesised to be sensitive to criticism or disapproval from others as well as themselves (Blatt & Zuroff, 1992). It is also suggested that self-critics are prone to low self-esteem and negative affective states including feelings of worthlessness, shame, and guilt (Blatt & Zuroff, 1992; Whelton & Greenberg, 2005).

Gilbert et al. (2004) developed a questionnaire assessing two types of self-criticism that they hypothesised were present in self-critical individuals. One involves fixating on mistakes, feeling inadequate and wanting to improve; while the second form involves hurting oneself, feeling self-hatred and disgust and wanting to punish oneself. These researchers also argue that highly self-critical individuals struggle to resist their self-attacks as they are less able to self-reassure and self-soothe, which diminishes their ability to resist self-attacks, turning critical inner-dialogue into a form of self-bullying and harassment (Gilbert & Irons, 2004; Gilbert et al., 2004). Indeed, using an experimental paradigm to investigate self-critical thoughts and responses to such thoughts, Whelton and Greenberg (2005) found that, compared to people with low levels of

self-criticism, highly self-critical individuals were less resilient to their self-attacks as they responded with greater levels of sadness, shame and acceptance.

Research about the measurement of self-criticism has investigated the content of self-critical cognitions and related affect, frequency of self-critical thinking and the tendency to ruminate self-critically, and self-critical metacognitions. One of the most common measures of self-criticism, the self-criticism subscale of the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti & Quinlan, 1976) is a psychodynamically informed measure of self-critical and dependent personality types related to an exaggerated emphasis on self-definition and interpersonal relations, respectively. Self-critical personality is proposed to convey risk of introjective depression characterised by worthlessness, self-criticism, and fears of failure and criticism from others; while, dependant personality is related to anaclitic depression characterised by loneliness, helplessness and fears of abandonment (Blatt, Quinlan, Chevron, McDonald & Zuroff, 1982; Blatt & Zuroff, 1992). Of the other commonly-used measures of self-critical personality, the Levels of Self-Criticism Scale (LOSC; Thompson & Zuroff, 2004) is derived from the same psychodynamic theoretical background. In contrast, the Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004) is based upon clinical observations of people with depression.

A tendency to be self-critical has been evidenced as moderately stable over time in young people (Peter et al., 2017; Kopala-Sibley, Zuroff, Hankin & Abela, 2015). There have been mixed findings in adults – Koestner, Zuroff and Powers (1991) reported moderate stability in females but unstable levels of self-criticism in males recruited from the general population; while Brewin and Firth-Cozens (1997) found the opposite pattern in a 10-year follow-up study on medical students.

The longest prospective study involving self-criticism (Koestner et al., 1991; Zuroff, Koestner & Powers, 1994) found that elevated levels of self-criticism at age 12 were associated with poorer adjustment, including lower academic attainment and occupational status at age 31. In addition, evidence from research with children and adults suggests that self-criticism is associated with elevated levels of psychopathology and psychological distress across the lifespan (Glassman, 2007; Kopala-Sibley, Klein, Perlman & Kotov, 2017; Shahar et al 2004). A recent systematic review of 16 prospective studies in students found that self-criticism was significantly associated with subsequent symptoms of psychopathology; however, most studies had a follow-up period of one year or less (McIntyre, Smith & Rimes, 2018). Limited longitudinal research has found that distress can be associated with subsequently greater levels self-criticism (Shahar, Blatt,

Zuroff, Kuperminc & Leadbetter, 2004; Shiller, Hammen & Shahar, 2016; Zuroff, Igreja & Mongrain, 1990). These findings indicate that the relationship between distress and low self-criticism may be bidirectional.

Shahar (2015, 2016) proposes that self-criticism confers psychiatric vulnerability as it leads to maladaptive coping and reduced motivation. These generate stressors such as a lack of social support and negative life-events to create a social context that causes distress, which is then met with further self-criticism completing the 'self-criticism cascade'. From a cognitive-behavioural theoretical perspective, frequent negative self-related cognitions are part of the negative cognitive triad proposed to maintain depression (Beck, Rush, Shaw & Emery, 1979). Frequent, automatic, intensely believed, or harsh self-talk can be expected to be contribute to psychological distress; indeed, in cognitive behavioural theory, negative thoughts about the self are considered to maintain problems such as depression, social anxiety, eating disorders and psychosis (Beck, 1976, 1995; Beck, Emery & Greenberg, 1985; Jones, Leung & Harris, 2007; Tai & Turkington, 2009). Blaming and belittling oneself for developing psychiatric problems and self-critical responses about coping abilities are likely to increase distress, thus contributing to the maintenance of psychiatric problems.

1.2. Self-esteem

Self-esteem is another self-evaluative concept and refers to feeling 'good enough' (Rosenberg, 1965). Global self-esteem is often conceptualised as one's overall self-attitude, including cognitive and affective components based upon one's self-perceived competence and self-liking (Hooper, Chou & Browne, 2016; Leary & Baumeister, 2000; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995; Tafarodi & Milne, 2002). Self-esteem can also be conceptualised as a multidimensional construct which includes different domains, including cognitive, social, and physical self-esteem (Robins, Hendin & Trzesniewski, 2001). Global self-esteem can be associated with specific aspects of self-esteem; the strength of this association varies based on the self-prescribed value of that domain (Rosenberg et al., 1995). Measurement of self-esteem, like any attitude may be explicit / direct or implicit / indirect. Implicit and explicit self-esteem have been found to be weakly correlated, suggesting that they measure slightly different constructs (Buhrmester, Blanton & Swann, 2011; Hofmann, Gawronski, Gschwendner, Le & Schmitt, 2005). Explicit self-esteem measures have also been found to have higher correlations to one another and to be more stable across time than measures of implicit self-esteem (Buhrmester et al., 2011).

As highlighted above, although self-esteem has been variously conceptualised, the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965, 1979, 1986a) has dominated the research evidence base. The RSES measures overall positive or negative attitudes towards the self to provide a unidimensional measure of explicit self-esteem. Items assess cognitive and affective self-evaluation to reflect both, self-liking and perceived self-competence components of self-esteem. Psychometric analyses provide some support that this theoretically unidimensional construct has a replicable single factor structure across cultures (Schmitt & Allik, 2005). However, several researchers have found a bifactoral structure, variously described in the literature as referring to self-competence and self-liking, or positive and negative self-esteem (Marsh, 1996; Sinclair et al., 2010; Supple et al., 2012; Tafarodi & Milne, 2002). Nonetheless, the two factors are closely related, hence research has recommended that they are interpreted as a single construct (Donellan, Ackerman & Brecheen, 2016; Huang & Dong, 2012; McKay, Boduszek & Harvey, 2014).

At present, there appears to be only one measure of global self-esteem that is not reflecting cognitive self-evaluations or perceived competence, the Basic Self-Esteem Scale (Forsman & Johnson, 1996), a psychodynamically informed measure. 'Basic self-esteem', is suggested to measure the content-free, cognitively unmediated, affective-perceptual perception of the self, which is experienced as inherently 'good' and loveable (Forsman & Johnson 1996; Johnson, 2014. The authors suggest that in high 'basic self-esteem' is formed through early interactions with important others leads to the internalisation of stable positive representations of the self.

Lifespan longitudinal studies have found self-esteem to be moderately stable over time but with a robust bell-shaped developmental trend – lower self-esteem during childhood, increasing through adolescence and young adulthood and then declining into old age (Orth, Robins & Trzesniewski, 2010; Trzesniewski, Donellan & Robins, 2003). However, research has largely followed samples for short periods from early adolescence to young adulthood. Although self-esteem is typically fairly stable, the self-esteem of some individuals can be particularly responsive to contextual changes and quite unstable (Kernis, 2005; Rosenberg, 1986b).

Meta-analyses have found a small gender difference in self-esteem, with males typically having higher self-esteem (Kling, Showers & Buswell, 1999; Zuckerman, Li & Hall, 2016), particularly during adolescence (Harris et al., 2017; Oshri et al., 2017) suggesting that gender differences narrow with age. In a large study with people aged 16-45 across 48 countries, Bleidorn et al. (2016) found consistently higher self-esteem in males and older participants, with cross-cultural

variations in the magnitude of these differences related to cultural differences, for example differences in socioeconomics and gender-equality. A recent meta-analytic review also found that self-esteem was affected by culture and cohort (Zuckerman et al., 2016). A narrative review by Orth (2017) concluded that higher socioeconomic status is related to higher self-esteem.

Similar to self-criticism, there is strong evidence for self-esteem as a transdiagnostic risk factor. Lower levels of self-esteem are prevalent across different mental health problems in adults and young people such as depression, anxiety and eating disorders (Keane & Loades, 2017; Kelly, Vimalakanthan & Carter, 2014; Mann, Hosman, Schaalma & De Vries, 2004), however high self-esteem is observed in narcissism and mania (Neff, Kirkpatrick & Rude, 2007a; Zeigler-Hill, 2011). Longitudinal research has found that low self-esteem predicts increased risk for the development of depression, anxiety, and eating disorders (Cervera et al., 2003; Sowislow & Orth, 2013). However, as with self-criticism, there is also some evidence from longitudinal studies that psychological distress can be associated with subsequently lower self-esteem **(**Schiller, Hammen & Shahar, 2016; Shahar & Davidson, 2003; Shahar & Henrich, 2010). In addition to lower levels of self-esteem, unstable or 'fragile' self-esteem appears to convey unique risks for psychopathology (Franck & Raedt, 2007; Schiller & Shahar, 2013; Zeigler-Hill, 2011) potentially because it is highly contingent on contextual factors.

Fennell's (1997) cognitive-behavioural model of low self-esteem proposes that adverse early life experiences lead to global negative self-schema/core beliefs and related unhelpful rules for living that are activated by stressors when they are or might be broken. This activation is hypothesised to cause negative predictions resulting in anxiety and safety behaviours, and self-criticism leading to depression; these cycles maintain belief in and activation of the global negative self-view. This model highlights the role of self-criticism in maintaining low self-esteem and psychological distress. Leary, Schreindorfer and Haupt (1995) propose the 'sociometer theory' that conceptualises low self-esteem as an unmet need for acceptance resulting from the cumulative effects of real or perceived social threats. Detection of such threats is essential for achieving the primary human motivation of social inclusion and negative affect alerts us to threats. These researchers suggest that the relationship between low self-esteem and psychological problems can be explained by people's perceptions of their level of, or perceived risk for, social exclusion.

1.3. The relationship between self-criticism and self-esteem

Self-criticism and low self-esteem are closely related as both involve negative self-evaluation; the former involves negative self-related thoughts, while the latter involves an overall negative attitude towards oneself. Clinical anecdotes and empirical research have consistently shown self-criticism and self-esteem to be inversely related (Heimpel et al., 2002; Gilbert, 2013; Neff & Vonk, 2009; Shahar, 2016). Factor analytic studies have considered self-critical tendencies as one of the two factors within global self-esteem (Davis, Kellett & Beail, 2009; Yu, McElory, Bullock & Everett, 2011). Of note, although the research literature often refers to 'low' self-esteem or 'high' self-criticism, both constructs are considered to exist on a continuum across the population, without clear cut-offs for what is considered high and low self-criticism and self-esteem.

As mentioned, Blatt's (1974, 2004) psychodynamic model conceptualises low self-esteem and self-critical thinking as part of a self-critical perfectionist personality that is a risk factor for depression. This model implies a strong association between low self-esteem and self-criticism. Low self-esteem can also be conceptualised as a consequence of chronic and harsh self-criticism (Dunkley & Grilo, 2007; Gilbert & Irons, 2009). This may be because self-criticism perpetuates the gap between the perceived actual-self and ideal-self (Grzegorek, Slaney, Franze & Rice, 2004) characteristic of low self-esteem (Moretti & Higgins, 1990). This discrepancy can fuel achievement pursuits as individuals strive to enhance their overall self-concept (Dunkley & Grilo, 2007; Johnson & Blom, 2007). Self-criticism about domains important to an individual's self-esteem combined with the tendency for self-criticism to be overgeneralised has been considered to result in low self-esteem (Carver & Ganellen, 1983; Carver, 1998; Crocker & Park, 2004). Conversely, in the CBT model for low self-esteem, self-critical thinking is conceptualised as a consequence of the activation of a globally negative self-view (Fennell, 1997).

Theoretical models do not suggest differences between children and adults in self-criticism and self-esteem. Additionally, both self-criticism and self-esteem are typically moderately stable over time, with robust evidence that self-esteem shows a bell-shaped curve over the lifespan for most people. However, as there is limited evidence about age-related differences in self-criticism, the relationship between self-esteem and self-criticism may be different for children and adults.

High levels of self-criticism and low self-esteem have both been associated with elevated levels of overlapping forms of psychological difficulties in the research literature, such as depression, anxiety disorders, eating disorders, personality disorders and psychosis (Kannan & Levitt, 2013;

Shahar et al., 2012; Starrs, Dunkley & Moroz, 2015; Zeigler-Hill, 2011). The evidence shows that clinical populations typically have higher self-criticism and lower self-esteem than the general population, however it is not known whether the relationship between self-criticism and self-esteem changes with symptom severity. According to Beck's (1976) model of emotional disorders, activation of negative core beliefs about the self (e.g. 'I am a failure') that would be similar to the global self-evaluation characteristic of low self-esteem, result in the increased production of negative specific self-critical thoughts; these in turn maintain activation of the negative core beliefs. On the basis of this model, one would expect a stronger association between low self-esteem and self-critical thinking in individuals with emotional disorders than those without.

Both lower self-esteem and higher self-critical tendencies are associated with lower self-compassion (Neff, Rude & Kirkpatrick, 2007b). Compassion-based intervention studies have found that increased self-compassion is associated with improvements in self-criticism, self-esteem, psychopathology, negative and positive affect (Gilbert & Procter, 2006; Laithwaite et al., 2009; Rose, McIntyre & Rimes, 2018; Shahar et al., 2012). Self-criticism and self-esteem are also both associated with other psychological processes such as perfectionism (Ashby & Rice, 2002; Dunkley & Blankenstein, 2000; Grzegorek et al., 2004), rumination (Kuster, Orth & Meier, 2011; Smart, Peters & Baer, 2016), and cognitive biases such as overgeneralisation and bias towards negative information (Ingram, 1990; Kernis, Brockner & Franknel, 1989).

The role of stress has been highlighted in theoretical and empirical literature about self-criticism and self-esteem development. Cognitive behavioural approaches suggest early life stressors result in negative core beliefs, which can result in negative self-related thoughts and low self-esteem (Beck, 1976; Fennel, 1997). Compassion focused therapy (CFT), designed for people with high levels of shame and self-criticism, proposes that early adversity can lead to chronic threat-based responses and attempts to protect against threats, including self-criticism, which is maintained by feelings of worthless (Gilbert & Procter, 2006). It has been suggested that cold, domineering or neglectful parenting affect subsequent self-esteem and self-criticism through poorer attachment relationships (Gilbert, 2010; Gilbert & Procter, 2006; Roberts, Gotlib & Kassel, 1996). In sociometer theory the focus is specifically on interpersonal threats as a stressor; it suggests that the primary human motivations for social inclusion can lead to low self-esteem and related negative cognitions about the self in response to social threats (Leary et al., 1995).

1.4. Rationale and aims

An association between self-criticism and self-esteem has been referred to by researchers and clinicians alike however, a systematic review of the evidence base about the strength of this relationship is lacking. An initial scope of the literature found very limited experimental and longitudinal research, so this review will focus on cross-sectional studies. This initial search, did not yield any studies investigating the relationship between self-criticism and implicit self-esteem.

To provide a broad but cohesive review of the literature, this study will review published studies reporting on the association between self-criticism and explicit global self-esteem. Studies reporting on adult and child samples, as well as clinical and non-clinical groups will be included.

The aims of this systematic review are to:

1. Evaluate the evidence for the strength of the inverse association between self-esteem and self-criticism.
2. Conduct a narrative review comparing the strength of this relationship in children, adults, the general population and clinical groups.

2. Method

2.1. Search strategy

Searches were conducted on the Ovid PsychInfo, Web of Science, PubMed and Cochrane online databases in May 2017 and updated in March 2018. No publication date limits were placed. The search strategy was developed using previous systematic reviews on self-esteem (Augestad, 2017; Forrester et al., 2017; Hooper, Chou & Browne, 2016; Randal, Pratt & Bucci, 2015) and self-criticism (McIntyre, Smith & Rimes, 2018; Rose & Rimes, 2018). The following search strategy was used:

'Self critic*' OR 'inner critic*' OR 'negative self statement*'

AND

'Self esteem' OR 'Self concept*' OR 'Self worth' OR 'Self evaluat*' OR 'Self judgement*' OR 'Self confidence' OR 'Self regard'

2.2. Eligibility

The following a priori criteria were used to identify relevant studies:

Inclusion criteria

- Full text articles published in a peer-reviewed journal
- Articles written in English
- Articles published before March 2018
- Include a validated self-report measure of self-criticism and global self-esteem
- Use quantitative research methods to report an association between self-criticism and global self-esteem

Exclusion criteria

- Case studies, unpublished research including theses, poster presentations and abstracts
- Studies reporting only a facet of self-criticism, such as self-critical perfectionism
- Studies reporting experimentally-induced self-criticism or self-esteem
- Studies reporting associations between self-criticism and self-esteem derived from different time-points.

2.3. Study selection

Duplicate studies were removed using Endnote and reviewed manually. The title and abstract of the remaining articles was screened and studies not referring to self-criticism or self-esteem or using qualitative methodology were rejected. Publication type was also assessed to exclude book chapters, unpublished research and conference abstracts.

The full-text of the remaining studies was reviewed and studies not meeting eligibility criteria were excluded. This included studies that used unvalidated abbreviations of measures of self-esteem or self-criticism without providing details about the method of abbreviation, such as the rationale, the items included, or the reliability or validity of the shortened questionnaire.

2.4. Data extraction and quality assessment

Relevant information was extracted from included studies (Table 1). Where required, the researcher also contacted authors, calculated percentages reported, and searched cited research for additional information.

Two trainee clinical psychologists independently rated the studies using relevant items (Table 3) from the Effective Public Health Practice Project (EPHPP; EPHPP, 1998a, 1998b) quality assessment tool. Although there is no gold-standard quality assessment tool (Sanderson, Tatt & Higgins, 2003), the EPHPP was chosen because it can be used across multiple quantitative study designs, covers the relevant domains of biases, is quick to administer, and is highly reliable (Deeks et al., 2003; Jackson & Waters, 2005).

Study quality was rated using the EPHPP guidelines for the following domains – selection bias, confounders, data collection methods, and analyses (Table 4). For the purposes of this review, key confounders identified were the sociodemographic factors of gender, age and ethnicity; other variables such as marital status and income were considered if relevant to the individual study. Studies did not receive a lower score for utilizing a cross-sectional design because this review evaluates correlational, rather than longitudinal, relationships. All discrepancies were resolved through discussion.

Table 1: Data extracted for articles included in the narrative synthesis

Reference	Country	Sample and design	Gender	Age	Ethnicity	Self-criticism (SC) measure	Self-esteem (SE) measure	Analyses	Correlation between SC and SE
Abela & Taylor (2003)	Canada	303 school children 3rd grade = 119; 7th grade = 184	136 (45%) female, 167 (55%) male 3rd grade = 58 (49%) female, 61 (51%) male; 7th grade = 78 (42%) female, 106 (58%) male	3rd grade: M = 8 years 9 months, SD = 4.8 months; 7th grade: M = 12 years 10 months, SD = 5.5 months	65.4% Caucasian, 11.1% African American, 10.8% Asian, 8.9% Hispanic	CDEQ	RSES (Reverse scored – lower scores reflect higher levels of self-esteem and positive correlation coefficients indicate an inverse relationship)	Correlations (unspecified)	r = .55, p < .001
Abela, Webb, Wagner, Ho & Adams (2006)	Canada	102 parents in the general population with current or historic depression	88 (86%) female, 14 (14%) male	27-*53* years, M = 40.3 years, SD = 6.4 years. Potential error: 27-43 years reported in Abela et al. (2012), which used same sample.	84.3% Caucasian, 4.9% Asian, 2.9% Hispanic, 1.9% African American, 1.1% Native American, 4.9 % other	DEQ	RSES (reverse scored)	Pearson correlations	r = .45, p < .001
Abela, Fishman, Cohen & Young (2012)	Canada	140 school children (including 38 sibling pairs) with historic or currently	71 (51%) female, 69 (49%) male	6-14 years, M = 9.8, SD = 2.3 years		CDEQ	RSES (reverse scored)	Correlations (unspecified)	r = .35, p < .001

		affectively ill parents							
Adams, Abela, & Hankin (2007)	Canada	392 school children	232 (59%) female, 160 (41%) male	M = 12 years 4 months	74.7% Caucasian, 10.1% African American, 6.9% Asian, 1.1% Hispanic, 1.1% Native American, 6.2% other	CDEQ	RSES	Correlations (unspecified)	r = .52, significant; p-value not reported.
Dunkley & Grilo (2007)	Canada	236 adults with Binge Eating Disorder seeking treatment at a university-based programme	179 (76%) female, 57 (24%) male	M = 43.14 years SD = 9.29 years	84% Caucasian	DEQ: scored using factor weightings	RSES	Correlation between SC and SE from structural equation model where low SE and depression partially mediated the relationship between SC and over-evaluation of shape and weight.	r = -.68, p < .001
Fehon, Grilo & Martino (2000)	USA	194 adolescents at a private, university affiliated, short-term, inpatient	111 (57%) female, 83 (43%) male	12-18 years, M = 15.8 years, SD = 1.6	84% Caucasian, 9% African American, 7% Hispanic American,	DEQ-A	RSES	Pearson correlations, which were repeated	r = -.66, p ≤ .001; Depression partialled out: r = -.49, p ≤ 0.001

		unit receiving referrals from A&E, private clinicians and residential treatment units.			0.5% Asian American			controlling for depression.	
Fichman, Koestner & Zuroff (1996)	Canada	77 school children at a summer day camp	45 (57%) female, 32 (42%) male	8-14 years, M = 10.5 years		DEQ-A – SC subscale: abbreviated to 8 items	PCS-C – Global Self-Worth subscale: 7 items abbreviated to 4 items	Hierarchical multiple regression controlling for gender	β = -.55, $t(73)$ = - 5.70, $p < .001$
Ghorbani, Watson, Tahbaz & Chen (2017)	Iran	224 university students.	127 (57%) female, 97 (43%) male	M = 21.5 years, SD = 2.1 years		LOSC – ISC and CSC subscales: Persian translation	RSES – previous Persian translation	Correlations controlling for gender	ISC: r = -.12, p > .05; CSC: r= -.23, p < .01
Grzegorek, Slaney, Franze & Rice (2004)	USA	273 undergraduate students at Educational Psychology courses	201 (74%) female, 72 (26%) male	17-54 years, M = 19.87, SD = 3.27; 94% of the sample was aged 18 - 22.	91% Caucasian, 2.4% African American/ Black, 2.8% Asian American, 3.8% Other	DEQ McGill revision: 48 item abbreviation with revised scoring	RSES	Correlations (unspecified)	r = - 0.44, p < 0.001

Iancu, Bodner & Ben-Zion (2015)	Israel	32 new patients with Social Anxiety Disorder (SAD) at a Community Mental Health Team. 30 healthy controls without current psychiatric disorders recruited from the team's non-clinical staff	36 (58%) female; 26 (42%) male SAD: 12 (37.5%) female; 20 (62.5%) male Controls: 24 (80%) female; 6 (20%) male	18-61 years, M = 31.26 years, SD = 9.08 years SAD: 18-55 years, M = 30.51 years, SD = 9.60 years Controls: 24-37 years, M = 31.78 years, SD = 8.74 years		DEQ	RSES – Hebrew translation	Pearson correlations	r = -.83, p ≤ .001
Ishiyama & Munson (1993)	Canada	561 undergraduates on psychology, education, or applied sciences courses. Sample 1: 454 students at University of Victoria Sample 2: 107 students at McGill University	350 (62.4%) female; 210 (37.4%) male; 1 (0.2%) gender unidentified Sample 1: 272 (60%) female; 182 (40%) male Sample 2: 78 (73%) female; 28 (26%) male, 1 (1%) gender unidentified	Sample 1: M = 22.3 years, SD = 6.1 years; Sample 2: M = 27.1 years, SD = 9.0 years		SCCS - negative self-processing (NSP) and failure in positive self-processing (FPSP) factors	RSES	Correlations (unspecified)	SCCS overall: r = -.71, p < 0.05. NSP: r = -.64, p < .05; FPSP: r = -.66, p < 0.05

Johnson (2010)	Study 1: Sweden; Study 2: USA	Undergraduate students Study 1 = 180 students Study 2 = 428 students	Study 1: 108 (60%) female, 72 (40%) male Study 2: 276 (64%) female, 152 (36%) male	Study 1: 19-45 years, M = 27 years Study 2: 18-56 years, M = 22 years	-	DEQ	BSES: 38 items abbreviated to 14 items	Pearson correlations controlling for negative affect Pearson correlations, repeated controlling for negative affect	Study 1: r = -.38, p < .001. Study 2: r = -.68, p < .001; when controlling for negative affect, r = -.36, p < .001
Katz & Nelson (2007)	USA	98 psychology undergraduate students	75 (77%) female; 23 (23%) male	18-22 years	84% Caucasian	LOSC – ISC and CSC subscales	RSES	Correlations (unspecified)	ISC: r = -.32, p < .01; CSC: r = -.65, p < .001
Kelly & Carter (2013)	Canada	74 patients at an intensive hospital-based eating-disorder programme, including an inpatient unit and day hospital	72 (97%) female, 2 (3%) male	18-55 years, M = 27.5 years, SD = 9.3 years	79.1% Caucasian, 4.5% East Asian, 1.5% South Asian, 2.9% African, 10.5% Latin, 1.5% mixed race	FSCRS: reported composite score of the highly correlated IS and HS (r= 0.85) subscales	RSES	Pearson correlations	r = -.39, significant; shared less than 54% of their variance
Kolubinski, Nikčević, Lawrence & Spada (2017)	UK	178 adults from the general population and a university. Recruitment targeted people	138 (78%) female, 40 (22%) male	18-75 years, M = 39.51 years, SD = 11.83 years		DEQ-SC6: abbreviated version of the DEQ-SC; SCRS; SCRS-Modified (SCRS-M)	RSES	Spearman correlations	DEQ-SC6: r = -.65, p < .01; SCRS: r = -.78, p < .01;

		with high SC or low SE.							SCRS-M: r = -.79, p < .01
Overholser (1992)	USA	375 psychology undergraduates; of these, 302 (81%) were re-tested 10 weeks later at Time 2. Students were categorised into 'recent social loss' and 'no social loss groups' based on the presence or absence of social loss measured using the Life Experiences Survey (Sarason, Johnson, Siegel, 1978).	Time 1: 205 (55%) female; 170 (45%) male Time 2: details not provided	Time 1: Females: M = 19.83 years, SD = 3.88 years; Males: M = 19.45 years, SD = 1.56 years Time 2: details not provided		DEQ: scored using updated unit weights	RSES	Pearson correlations	<u>Recent social loss group</u>: Time 1: r = -.61, p < .05; Time 2: r = -.65, p < .05 <u>No social loss group</u>: Time 1: r = -.66, p < .05; Time 2: r = -.68, p < .05
Overholser (1993)	USA	323 undergraduates; a subset of the sample in Overholser (1992), excluding the 53 participants with inaccurately	175 (54%) female; 148 (46%) male	Females: M = 19.89 years, SD = 3.83 years Males: M = 19.49 years, SD = 1.60		DEQ: scored using updated unit weights	Self-Esteem Worksheet (SE-WS); RSES; WSES; LHSES.	Pearson correlations. *Note: the correlation between the DEQ and RSES reports data by*	SE-WS: r = -.29; RSES: r = -.66; LHSES: r = -.62; WSES: r = -.62; all p < .0001

		completed questionnaires						*Overholser (1992)*	
Schiller, Hammen & Shahar (2016)	Israel	170 undergraduates assessed at 3 time-points over 9 months. There was no attrition.	119 (68% of 174) female; 55 (32% of 174) male	20-28 years, M = 23.19 years, SD = 1.3 years	100% Israeli	DEQ; FSCRS-IS and HS subscales	RSES	Correlations at Time 1, Time 2 (4-5 months later), and Time 3 (3-4 months later)	DEQ: *r*s = -.49 to -.57, p < .05 FSCRS-IS: *r*s = -.56 to -.66, p < .05 FSCRS-HS: *r*s = -.61 to -.64, p < .05
Sergeant & Mongrain (2011)	Canada	772 of the recruited 1036 adults with daily internet access (no other eligibility criteria) completed 1 week of online positive psychology interventions (gratitude or music exercises), or the control condition (recalling an early childhood memory), in this RCT for improving well-being.	Pre: 624 (81%) female, 130 (17%) male, 18 (2%) gender unidentified	Pre: 18-72 years (M = 34, SD = 11.78);	Pre: 76% Caucasian	DEQ: scored using unspecified factor weights	RSES	Correlations at pre and post intervention	Pre: r = -.55, p < .01 Post (one week after): r = -.52, p < .01

Stolow, Zuroff, Young, Karlin & Abela (2016)	USA	193 school children and adolescents 5th grade: 27.5%; 8th grade: 40%; 11th grade: 32.5%	98 (51%) female; 95 (49%) male	M = 13 years, 2.4 SD 5th grade: M = 9.9 years, SD= 0.61 years; 8th grade: M = 12.7 years, SD = 0.58 years; 11th grade: M = 16 years, SD = 0.56 years	58% Caucasian, 17% African America, 14.5% Asian, 6% Hispanic, 4% Multi-ethnic, 0.5% other	CDEQ	RSES: 10 items abbreviated to 5 items	Pearson correlations	r = -.59, p < .01
Thew, Gregory, Roberts & Rimes (2017)	UK	78 adults: 26 adults with depression and 26 with an eating disorder (ED) from mental health teams and the community; 26 healthy controls without past or current psychiatric problems including university students and staff	60 (77%) female, 18 (23%) male Depression: 21 (81%) female, 5 (19%) male ED: 26 (100%) female; Controls: 51% female; 49% male	Depression: M = 45 years, *SD* = 13 years ED: M = 28 years, *SD* = 7 years Controls: M = 26 years, *SD* = 12 years	No differences between groups by ethnicity; ethnicity was not reported.	HINT; FSCRS-IS, HS, and RS subscales	RSES	Pearson correlations	HINT: r = -.86, p < .05 FSCRS: IS: r = -.84; HS: r = -.72; RS: r = .81, p < .05
Trumpeter, Watson & O'Leary (2006)	USA	531 psychology undergraduate students	343 (65%) female, 181 (34%) male, 7 (1%) gender unidentified	M = 19.3 years, SD = 4.0 years	13 students (2.45%) did not report ethnicity, for the remaining sample (n = 518): 63.8% Caucasian, 27.9% African	LOSC – ISC and CSC subscales	RSES	Correlations (unspecified)	ISC: r = -.28, p < .001; CSC: r = -.62, p < .001

					American, 2.3% Asian, 1.1% Hispanic, 0.8% Middle Eastern, 1.7% other				
Yavuzer (2015)	Turkey	507 undergraduate students at teaching courses at 2 universities: 143 (28.2%) 1st year, 101 (19.9%) 2nd year, 221 (43.6%) 3rd year, 42 (8.3%) final year students	321 (63.6%) female, 186 (36.4%) male	18-29 years, M = 20.28 years, SD = 1.48 years		CDS – SC subscale: Turkish translation	RSES: Turkish translation	Pearson correlations	$r = -.11$, $p < .01$

Notes: SC = self-criticism; SE = self-esteem.

Self-criticism measures: CDS = Cognitive Distortions Scale - self-criticism subscale; DEQ = Depressive Experiences Questionnaire - self-criticism subscale; CDEQ = Child Depressive Experiences Questionnaire; DEQ-A= Depressive Experiences Questionnaire – Adolescent version; FSCRS = Forms of Self-Criticizing/ Attacking and Self-Reassurance Scale – IS = Inadequate Self, HS = Hated Self, and RS = Reassured Self sub-scales; LOSC = Levels of Self-Criticism scale – ISC = Internalised Self-Criticism, and CSC = Comparative Self-Criticism sub-scales; SCCS = Self-Critical Cognition Scale.

*Self-esteem measure*s: BSES = Basic Self-Esteem Scale; LHSES = The Luck & Heiss Self-Esteem Scale; PCS-C = Perceived Competence Scale for Children – General Self-Worth subscale; RSES = Rosenberg Self-Esteem Scale also cited in the literature as the Child Self-Esteem Questionnaire (CSEQ); WSES = Watkins Self-Esteem Scale.

3. Results

3.1 Study selection

Search results are presented in the PRISMA flowchart (Figure 1). Overall, 23 studies met the eligibility criteria and are reported in this review, with publication dates ranging from 1992 to 2017. Searches in May 2017 identified 1175 records, which produced 928 articles after duplicates were removed. Searches in March 2018 identified a further 54 records, which produced 42 records after deduplication, of which, 2 were included in this review.

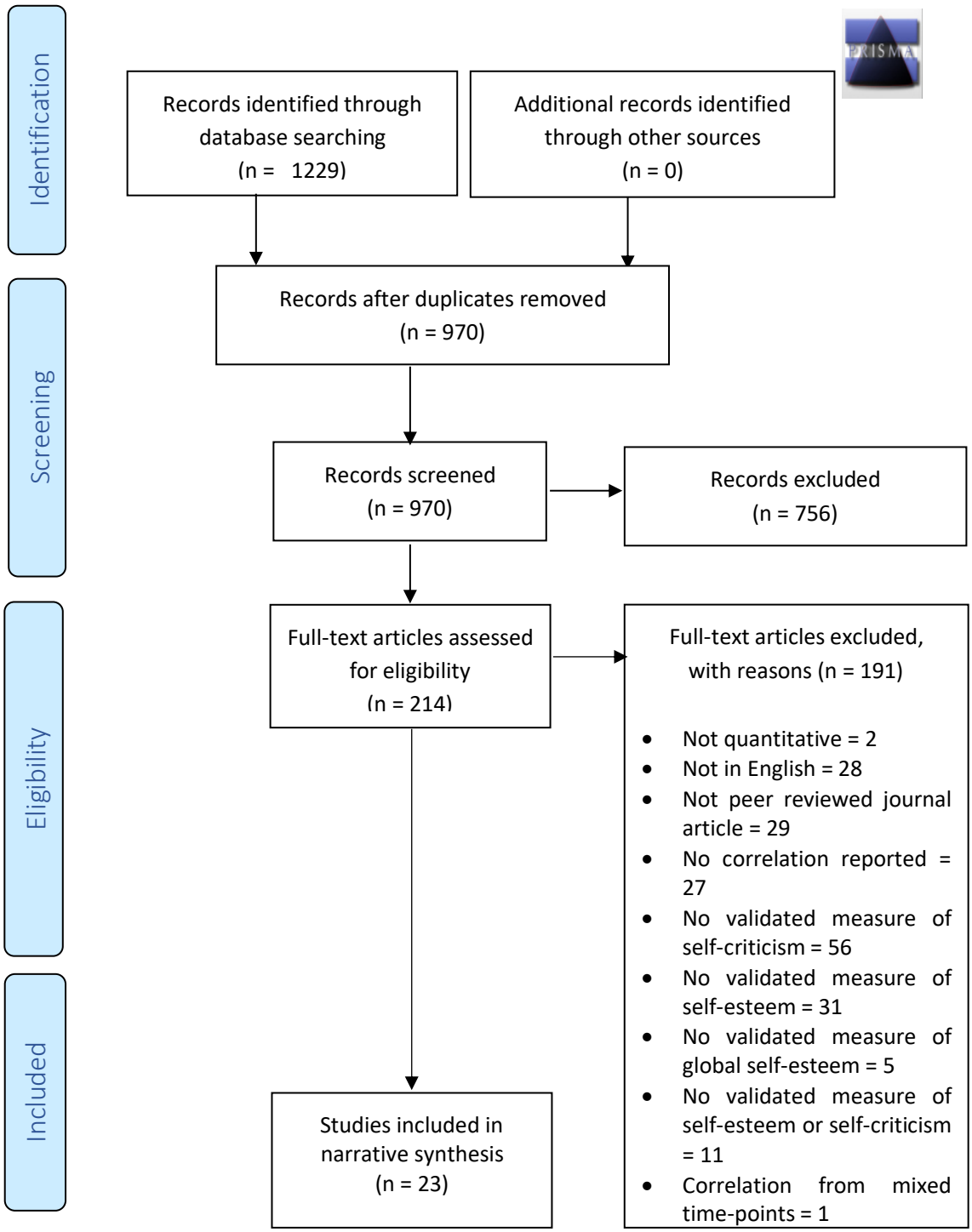


Figure 1: PRISMA (2009) Flowchart

3.2. Overview of studies

3.2.1. Design

The research reviewed were primarily cross-sectional observational studies. Three studies reported cross-sectional correlations at multiple time-points. The time-points at which different correlations were reported varied between one week (Sergeant & Mongrain, 2011), ten weeks (Overholser, 1992) and nine months (Schiller et al., 2016); completion rates ranged from 71% to 100%, showing low levels of attrition. Of these, one was an intervention study (Sergeant & Mongrain, 2011) offering online positive psychology interventions to the general population in a randomised control trial.

Twenty-one studies reported on a single sample. Of these, six papers reported one set of analyses using data from different multiple sites like different school and universities. Three studies had more than one group – clinical and non-clinical groups (Iancu, Bodner & Ben-Zion, 2015; Thew et al., 2017) or different intervention conditions (Sergeant & Mongrain, 2011) – but reported a single overall correlation coefficient across groups.

In exchange for participation, six studies offered course credit; four studies offered financial reimbursement, gift vouchers, or prize draws; and two studies offered a choice of either.

3.2.2. Sample characteristics

The studies were conducted across seven different countries – Canada (n = 9), USA (n = 7), Israel (n=2), UK (n = 2), Iran (n=1), Sweden (n=1), and Turkey (n = 1). All of the child or adolescent studies were conducted in Canada (n = 5) or the USA (n = 1); one author was involved in five studies, the fifth study also shared a common author with another child study. In the adult studies, overlapping authors were observed in studies conducted in Canada and USA, as well as Iran and USA.

The studies reported on a total of 6471 participants, of which only 1,329 (20.54%) were young people aged under 18. No research reported on samples from both adult and child populations. Sample sizes of the reported correlations varied from 62 to 772 participants, with child studies involving a smaller range of participants (n = 77 to 392) than adult studies. Overholser (1992, 1993) reported findings on different variables using the same sample.

The child and adolescent studies (n = 6) used samples aged six to 18 years, while adult research (n = 17) reported a longer age range of 17 to 75 years. Most studies reported on a smaller age range, predominantly in younger, student samples. The largest age ranges were 54 and 57 years (Kolubinski et al., 2017; Sergeant & Mongrain, 2011), with Thew et al. (2017) reporting the largest standard deviation (13 years; range not reported).

Broadly gender-balanced samples were observed in child studies, with females representing 42% to 59% of the samples. However, adult research was dominated by majority female samples (54% to 97% female). Research on clinical and high-risk populations (n=8) typically utilised female-dominant samples (51% to 97% female), however the two studies in young people reported relatively gender balanced samples. Of note, all participants in the eating disorder sample of the Thew et al (2017) study were female. The social anxiety study (Iancu, et al., 2015) involved the only male-dominant clinical sample (62.5% male). Twelve studies reported information on ethnicity and all had a predominantly Caucasian (58% to 91% Caucasian) sample.

Five studies investigated clinical groups – eating disorders (n = 3), depression (n = 1), social anxiety (n = 1), and inpatients with multiple diagnoses but predominantly depression (n = 1). Thew et al. (2017) investigated participants with either depression or an eating disorder. Of note, only Fehon, Grilo and Martino (2000) researched a clinical population under age 18. Two of the five studies included a non-clinical control group; both studies drew these populations from entirely or predominantly student or staff groups (Iancu et al., 2015; Thew et al., 2017). An additional three studies reported on 'high-risk' groups drawn from the general population – parents with current or historic depression (Abela et al., 2006) and their children (Abela, Fishman, Cohen & Young, 2012), and adults likely to have high self-criticism or low self-esteem (Kolubinski et al., 2017). The remaining 15 studies aimed to study the general population, using samples drawn from schools (n = 3), summer camp (n = 1), universities (n = 10), and the general community (n = 1).

3.2.3. Measures

Self-esteem and self-criticism were measured by a variety of self-report questionnaires (see Tables 2a and 2b for an overview) developed from different theoretical backgrounds. Although many studies used the same measures, it is not meaningful to compare mean or total scores across studies because they used abbreviated questionnaires, translations, different rating

scales, or scoring methods. No study used multiple measures of both self-criticism and self-esteem.

Self-criticism

The Depressive Experiences Questionnaire (DEQ), and its adolescent (DEQ-A) and child (CDEQ) versions, were the most commonly-used measures of self-criticism. All youth samples used either the CDEQ or DEQ-A. All studies used previously validated measures of self-criticism, except Ishiyama & Munson (1993) who validated a new measure of self-critical habits: the Self-Critical Cognition Scale (SCS). However, no other measures of self-criticism were used in the validation of the SCCS.

Fichman et al. (1996) and Kolubinski et al. (2017) used reliable modified versions of standardised measures which were abbreviated using a strong rationale. Two studies translated measures into Persian and Turkish. Iancu et al. (2015) reported using a Hebrew translation for their measure of self-esteem, so it is likely that they translated their measure of self-criticism too. Studies in Sweden (Johnson, 2010) and Israel (Schiller et al., 2016) did not report using translated materials.

Three studies reported correlations with self-esteem on multiple measures of self-criticism. Six studies used measures with multiple sub-scales of self-criticism – the Insecure Self (IS) and Hated Self (HS) sub-scales of the Forms of Self-Criticizing/Attacking and Self-Reassurance Scale (FSCRS) (n = 3), and the Comparative Self-Criticism (CSC) and Internalised Self-Criticism (ISC) subscales of the Levels of Self-Criticism Scale (LOSC) (n = 3).

Table 2a: Information about measures of self-criticism reported (presented alphabetically)

Self-criticism questionnaire or subscale Citation; intended sample; details of items; n = included articles utilising the measure.	**Description of the construct intended to be measured**	**Sample items** (examples, or abbreviations if these were unavailable)
Child Depression Experiences Questionnaire (CDEQ) Self-criticism sub-scale (Abela & Taxel, 2001; unpublished conference paper) Child measure; 5 Likert scale items; n = 4	Brief measure of self-criticism adapted from the Depressive Experiences Questionnaire (DEQ).	*'If I am not good at everything I do, I get mad at myself'*
Cognitive Distortions Scale (CDS) (Briere, 2000) Self-criticism subscale Turkish version (Ağır, 2007; unpublished doctoral thesis) Adult measure; 8 Likert scale items; n = 1	Self-criticism subscale measures self-criticism as one type of cognitive distortion.	Not available.
Depressive Experiences Questionnaire (DEQ) Self-criticism sub-scale (Blatt et al., 1976) Adult measure; 66 Likert scale items with sub-scales calculated using factor weights; n = 9. *Note: Researchers used different factor weightings and items to calculate the sub-scales thus precluding direct comparisons between mean scores reported.*	Self-criticism subscale aims to measure a self-critical personality configuration that is hypothesised to predispose to depression, sometimes described as self-critical perfectionism. Based upon psychodynamic theory.	'*I often find that I don't live up to my own standards or ideals', 'There is considerable difference between how I am now and how I would like to be', 'I often blame myself for things I have done or said to someone', 'I tend to be very critical of myself'*, and *'I am very satisfied with myself and the things I have achieved'*

Depressive Experiences Questionnaire – self-criticism (DEQ-SC-6) (Rudich et al., 2008) Adult measure; 6 Likert scale items; n = 1	Abbreviated version of the DEQ self-criticism subscale designed to measure self-critical personality.	*'Often I find that I do not live according to my standards or ideals', 'There is significant gap between who I am today and who I would like to be', 'I find it hard to accept my weaknesses',* and *'I have a tendency to be very self-critical'*
Depression Experiences Questionnaire for Adolescents (DEQ-A) - *Self-criticism factor* (Blatt et al., 1990, 1992) Adolescent measure; 66 Likert scale items in the entire questionnaire; n = 2	Rephrased items from the DEQ for younger sample; measure of self-critical personality.	*'I often find that I fall short of what I expect of myself', 'There is a big difference between how I am and how I wish I were', 'I often blame myself for things I have done or said', 'I often feel guilty', 'I tend to be very critical of myself*', and *'I am very satisfied with myself and the things I have achieved'*
Forms of Self-Criticizing/Attacking and Self-Reassurance Scale (FSCRS) self-criticism subscales: *Inadequate Self (FSCRS-IS) and Hated Self (FSCRS-HS)* (Gilbert et al., 2004) Adult measure; 22 Likert scale items (IS = 9 items, HS = 5 items); n = 3	Measure of typical self-critical responses to difficulties. FSCRS-IS focused on personal inadequacies and mistakes, and the FSCRS-HS focused on self-persecution.	*IS: ''I think that I deserve my self-criticism', 'there is a part of me that thinks I'm not good enough'* and *'I remember and dwell on my failings'* *HS: 'I stop caring about myself', 'I have a sense of disgust with myself', 'I call myself names'* and *'I do not like being me'.*
Habitual Index of Negative Thinking (HINT) (Verplanken et al., 2007) Adult measure; 12 Likert scale items; n = 1	Metacognitive measure of the mental process of self-criticism, evaluating the extent to which self-critical thinking is habitual and automatic.	Participants rate agreement with the following statements beginning with 'Thinking negatively about myself is something…' – *'I do frequently', 'I do unintentionally', and 'that's typically "me"'*

Levels of Self-Criticism Scale (LOSC) *Internalised (LOSC-ISC) and Comparative Self-Criticism (LOSC-CSC) subscales* (Thompson & Zuroff, 2004) Adult measure; 22 Likert scale items (CSC = 12 items, ISC = 10 items); n = 3	Measure of the different facets of self-critical personality based upon the same theory as the DEQ. LOSC- ISC measures a negative view of the self in comparison with internal, personal standards; whereas LOSC-CSC measures negative self-view compared to others. ISC and CSC are highly related to feelings of worthlessness and inferiority, respectively.	*ISC: "Failure is a very painful experience for me', ' I frequently compare myself with my goals and ideals'* and *'I am very irritable when I have failed'* *CSC: "I have a nagging sense of inferiority", 'I fear that if people get to know me too well, they will not respect me',* and *'I seldom feel ashamed of myself'*
Self-Critical Cognition Scale (SCCS) *Negative self-processing (NSP) and Failure in positive self-processing (FPSP) subscales* (Ishiyama & Munson, 1993) Adult measure; 13 Likert-scale items (NSP = 8 items. FPSP = 5 items); n = 1	Measure of tendency for self-critical and self-defeating cognitive processing of self-relevant information such as – selective focus towards, exaggeration or over-generalization of, and preoccupation with negative information; rumination; not handling negative information constructively; quick self-critical conclusions and negative comparisons with others.	*NSP* – '*Somehow I have a tendency to come to a critical conclusion about myself too easily'* and *'When I see someone else doing something well, I become critical of my own activities and accomplishments* FPSP – *'I tend to appreciate my weaknesses and inabilities without becoming overly critical of myself'* and *'I tend to focus on the positive aspects of myself more readily than on the negative aspects'*
Self-Critical Rumination Scale (Smart et al., 2016) and it's **modified** version **(SCRS-M)** (Kolubinski et al., 2017) Adult measure; 10 Likert scale items (7 items in the SCRS-M); n = 1	Measure of the ruminative processes in self-critical thinking adapted to exclude items (3,4, and 7) measuring metacognition. Items reflect ruminative cognitive processes – frequent, prolonged, repetitive, and hard to control.	*I often worry about all of the mistakes I have made'* and *'My attention is often focused on aspects of myself that I'm ashamed of'*

Self-esteem

All except two articles assessed self-esteem using the Rosenberg Self-Esteem Scale (RSES), which is used in both child and adult samples. Johnson (2010) used a psychoanalytically based measure, the Basic Self-Esteem Scale (BSES), with adults; while Fichman et al. (1996) used a multidimensional measure, the Perceived Competence Scale (PCS-C), with children. Both studies used abbreviated versions of these scales. Stolow et al. (2016) also used an abbreviated measure of self-esteem.

Measures were translated into Hebrew, Persian and Turkish (n = 1 for each). As reported above, studies in Sweden and Israel did not report translating materials (Johnson, 2010; Schiller et al., 2016).

Overholser (1993) was the only paper to use multiple measures of self-esteem – participants completed the RSES, Luck-Heiss Self-Esteem Scale (LHSES), Watkins Self-Esteem Questionnaire (WSEQ) and a novel measure, the Self-Esteem Worksheet (SEWS). This idiographic measure identifies areas relevant to self-esteem; the subjective importance and self-perceived success in each domain is rated to obtain a global self-esteem score.

Table 2b: Information about measures of self-esteem reported (presented alphabetically)

Global self-esteem questionnaire or subscale Citation; intended sample; details of items, n = included articles utilising the measure.	**Description of the construct measured**	**Sample items** (examples, or abbreviations if these were unavailable)
Basic Self-Esteem Scale (BSES) (Forsman & Johnson, 1996) Adult measure; 37 Likert scale items; n = 1	Fundamental self-love and acceptance of own need; measure based on psychodynamic theory. Two factors: emotional warmth and openness (EWO), and self-assertiveness (SA).	EWO – '*I can freely express what I feel*', *'I am satisfied with being the person I am'* and *'My relations with others are emotionally warm'*; SA – *'I find it easy to say no to others' demands and expectation', 'Sometimes I feel I'm totally worthless'* and *'I never feel inferior to people I know'.*
Luck-Heiss Self-Esteem Scale (LHSES) (Luck & Heiss, 1972) Adult measure; 5 true-false items; n=1	Brief measure of general attitude towards self-worth.	'*I am very confident of myself*' and *'At times I think I'm no good at all'.*
Perceived Competence Scale for Children (PCS-C) *General self-worth subscale* (Harter, 1982) Child measure; 7 items rated on a 4-point scale; n = 1	General self-worth (GSW) subscale: how much one likes themselves as a person.	GSW abbreviated items: *Happy with the way I am; Do things fine; Am a good person.*
Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965, 1979, 1986a) Adult and young people; 10 Likert scale items; n = 21	Overall positive or negative feelings about oneself as a whole, not regarding specific facets of oneself.	'*I am a person of worth', 'I am able to do things as well as most people', 'All in all I am inclined to think I am a failure',* and *'Sometimes I think I am no good at all'.*
Self-Esteem Worksheet (SE-WS) (Overholser, 1993) Adults; quantitative measure; n=1	Idiographic measure assessing perceived success (including task success, social relationships and personal qualities) in areas that are subjectively important for an individual's self-esteem.	Participants list 3-15 specific content areas of success and those they would like to succeed at, then rate the importance of and their self-evaluation of success in each area.
Watkins Self-Esteem Questionnaire (WSEQ) (Watkins, 1978) Adults; 25 true-false items; n=1	General self-esteem scale reflecting areas of life important to Western students.	*'Taking everything into account, I would rate myself fairly highly'* and *'I am quite satisfied with my social life'.*

3.2.4. Analyses

All studies reported correlation coefficients, except Fichman et al. (1996), who reported the standardised beta of a regression.

3.2.5. Study quality

The quality of the evidence base varied but was mostly weak or moderate (see Tables 3 and 4 about quality assessment). Only the study by Yavuzer (2015) was not rated poorly on any domain. Three studies received one weak quality rating (Fehon et al., 2000; Ghorbani et al., 2017; Overholser, 1993), while the remainder scored poorly on two or more domains. The quality of the studies varied most for selection bias and analyses; both studies showing very low risk of selection bias (Abela & Taylor, 2003; Adams et al., 2007) were in child samples. The quality of statistical analyses was often difficult to discern as the type of correlation was not always specified and only two studies (Kolubinski et al., 2017; Yavuzer, 2015) reported how they determined that analyses were appropriate. No study accounted for most of the sociodemographic confounders, however most used high-quality data collection methods.

Three studies used standardised measures without fully demonstrating their reliability and validity. The PCS-C (Fichman, Koestner & Zuroff, 1996) was abbreviated in one study using items with the highest factor loadings; however, these sub-scales can be omitted but not abbreviated (Harter, 1985). The RSES was abbreviated in one study without a rationale being provided for item selection, but that study demonstrated good internal consistency (Stolow et al., 2016). The SE-WS (Overholser, 1993) has not been widely used in this research and did not show strong psychometric properties in the validation study. Additionally, although Overholser (1992) utilised validated measures, the validity of their findings is questionable because the results of 53 participants (14.1% of the sample) were excluded from the subsequent study (Overholser, 1993) due to errors in questionnaire completion.

Table 3: Quality assessment adapted from EPHPP quality assessment tool

Quality assessment tool adapted from the EPHPP.			
EPHPP component	EPHPP item	Quality assessment question	Key
Selection bias	*Item 1*	*Are individuals selected to participate in the study likely to be representative of the target population?*	*1 = very likely; 2 = somewhat likely; 3 = Not likely; 4 = can't tell*
	Item 2	*What percentage of selected individuals agreed to participate?*	*1 = 80%-100%; 2 = 60-79%; 3 = less than 60%; 4 = can't tell; n/a = not applicable*
Confounders	*Item 2*	*How many relevant sociodemographic confounders were controlled for?*	*1 = 3+ confounders; 2 = 1-2 confounders; 3 = none*
Data collection	*Item 1*	*Were data collection tools valid?*	*1 = yes; 2 = no; 3 = can't tell*
	Item 2	*Were data collection tools reliable?*	*1 = yes; 2 = no; 3 = can't tell*
Analyses	*Item 3*	*Were statistical methods appropriate for the study design?*	*1 = yes; 2 = no; 3 = can't tell*

Table 4: Quality assessment ratings

Article	**Selection bias**		**Confounders**	**Data collection**		**Analyses**
	Item 1	Item 2	Item 2	Item 1	Item 2	Item 3
Abela & Taylor (20003)	1	n/a	3	1	1	3
Abela et al. (2006)	3	n/a	3	1	1	1
Abela et al. (2012)	3	n/a	2	1	1	2
Adams et al. (2007)	1	n/a	3	1	1	2
Dunkley & Grilo (2007)	3	n/a	3	1	1	1
Fehon et al. (2000)	2	n/a	3	1	1	1
Fichman et al. (1996)	3	n/a	3	3	3	1
Ghorbani et al. (2017)	4	n/a	2	1	1	1
Grzegorek et al. (2004)	2	1	3	1	1	3
Iancu et al. (2015)	4	n/a	3	1	1	2
Ishiyama & Munson (1993)	4	n/a	2	1	1	3
Johnson (2010)	4	n/a	Study 1 = 3; Study 2 = 2	1	1	study 1 = 1; study 2 = 3
Katz & Nelson (2007)	3	1	3	1	1	3
Kelly & Carter (2013)	4	n/a	3	1	1	2
Kolubinski et al. (2017)	3	n/a	3	1	1	1
Overholser (1992)	3	n/a	1	2	2	1
Overholser (1993)	3	n/a	2	1	2	1
Schiller et al. (2016)	3	n/a	3	1	1	3
Sergeant & Mongrain (2011)	3	2	3	1	1	3
Stolow et al. (2016)	4	n/a	3	3	1	1
Thew et al. (2017)	4	n/a	3	1	1	2
Trumpeter et al. (2006)	3	n/a	3	1	1	3
Yavuzer (2015)	2	n/a	2	1	1	1

3.3. Narrative synthesis of study findings

3.3.1. Strength of the association between self-criticism and self-esteem

As expected, all studies reported at least one significant inverse relationship between self-criticism and self-esteem. The median correlation across the studies (n=22) was r= -.61 and the range was r= -.11 to r= -.86. This includes all correlations reported (n=34) except for additional correlations controlling for distress or reporting longitudinal relationships (for example, post-intervention correlations or correlations at Time 2). Fichman et al. (1996) found a moderate association using a regression, β = -.55. The only study reporting a positive relationship (Adams, Abela & Hankin, 2007) used a reverse-scored version of the RSES but, unlike other studies, this was not mentioned in their methods section.

Smaller correlations (less than r = .03) were reported by four studies conducted with university students in Iran, Turkey, and the USA. This research used less common measures of self-criticism, such as the LOSC and CDS; or of self-esteem, such as the SE-WS. All studies reported significant correlations ($p < .05$), except Ghorbani et al. (2017); they found a significant association between self-esteem and the Comparative Self-criticism (LOSC-CSC) but not the Internalised Self-Criticism (LOSC-ISC) subscale of the LOSC. The other two studies using the LOSC (Katz & Nelson, 2007; Trumpeter et al., 2006) also reported correlations of double the magnitude for LOSC-CSC compared to LOSC-IC. The smallest correlation was reported on a sample of Turkish students studying teaching using translated versions of the CDS and RSES (Yavuzer, 2015).

Stronger correlations (greater than r = .7) were reported by four studies using the RSES. They involved various measures of self-criticism – the DEQ, FSCRS, HINT, SCCS, and SCRS. Kolubinski et al. (2017) used multiple measures and reported a correlation of -.61 on the DEQ but a higher correlation on the SCRS (r = -.78) and SCRS-M (r = -.79). Three of these studies involved clinical or high-risk samples; while one was a study investigating the psychometric properties of the newly-formed SCCS in university students.

In the study with the highest quality ratings across the assessment domains, Yavuzer (2015) reported the weakest correlation (r= -.11). Of the three studies with only one poor quality rating, moderately strong correlations were reported by two studies (Fehon et al., 2000; Overholser, 1993) for analyses including DEQ measures of self-criticism and validated measures of self-esteem *r*s = -.62 to -.66; (n = 4 correlations). However, the third study (Ghorbani et al., 2017) only found small correlations using the LOSC (LOSC-ISC: r = -.12; LOSC-CSC: r = -.23) as did

Overholser (1993) when using their idiographic measure, the SE-WS. Quality in any one domain did not seem to be consistently associated with the size of the correlation.

The strength of the association did not appear to systematically differ based upon whether or not participants received compensation. None of the studies included formal statistical analyses to test differences in the strength of the relationship after controlling for the effects of another variable or when comparing correlations from different points in time.

3.3.2. Sociodemographic factors

In studies involving young people (n=6), the strength of the self-criticism to self-esteem correlation ranged from -.35 to -.59, or -.66 if the effects of depression were not partialled out. In adult studies (n=17) the correlations ranged from -.11 to -.86. The median correlations reported for child and adult studies were r = -.55 (n=5 correlations) and r = -.62, (n=29 correlations), respectively. None of the studies controlled for age, however many studies did not need to do this as all of their sample was within a similar age group.

Two studies controlled for gender (Fichman et al., 1996; Ghorbani et al., 2017) and reported significant correlations, but they did not report additional zero-order correlations where they had not controlled for gender. Studies with gender-balanced and female-dominant samples did not produce consistently different trends in the strength of the association between self-criticism and self-esteem.

Study findings could not be analysed by ethnicity as most of the research drew on Caucasian samples. Four studies conducted outside countries with large Caucasian populations (Canada, UK, USA and Sweden) in Iran, Israel and Turkey. Studies in these countries found a wide range of correlations (*r*s = .12 to .83), likely reflecting differences in population (clinical and non-clinical) and data collection methods. Only Johnson (2010) evaluated the cross-cultural effects of the correlation by replicating their Swedish study in a British sample. Although a zero-order correlation was not reported in the Swedish study, there were similar partial correlations in both studies after controlling for negative affect in both the samples.

3.3.3. Psychological distress and clinical groups

Two studies (one with adults and another with adolescents) reported smaller associations between self-criticism and self-esteem after adjusting for the effects of mood (Fehon, Grilo & Martino, 2000; Johnson, 2010). However, the strength of the relationship was very similar (r = -.55 and r=-.52, respectively) before and after interventions that led to significantly higher levels

of happiness without any reductions in low mood (Sergeant & Mongrain, 2011). Another study found that people with and without a recent social loss had associations of similar size between self-criticism and self-esteem (Overholser, 1992).

Only two studies were identified that included clinical and control groups (Iancu et al., 2015; Thew et al., 2017). Furthermore, neither study reported separate correlations for these groups and only Iancu et al. (2015) indicated that their control group did not have a psychological disorder. High-risk studies involved participants with and without current psychological disorders.

3.3.4. Stability over time

Naturalistic studies reporting correlations at multiple points (n=2) found similar sized correlations when participants were re-assessed at ten weeks (Overholser, 1992) and one year (Schiller et al., 2016), with a trend for slightly higher correlations with time. Overholser et al. (1992) found correlations of -.61 and -.65 in participants with recent social loss, and -.66 and -.68 in those without such losses, at initial and repeat assessment respectively. Assessing participants at three times points with 3-month to 5-month intervals Schiller et al. (2016), reported stable inverse correlations with self-esteem measured on the RSES and the DEQ (*r*s = -.49, -.53, and -.57), the FSCRS-IS (*r*s = -.56, -.63, -.66), and the FSCRS-HS (*r*s = -.61, -.64, -.63). These results provide preliminary support for the stability of this relationship over time, although the differences in the sizes of the associations were not statistically analysed.

4. Discussion

This review into the association between self-criticism and self-esteem included 23 studies reporting an association between self-criticism and self-esteem across a variety of studies including children, adolescents and adults, and clinical and non-clinical samples in several countries using a range of measures. This is the first review of the relationship between these constructs despite decades of research into these constructs and their clinical implications. A consistent, inverse relationship was found between these constructs, but the size of the association ranged widely (*r*s = -.11 to -.86). The strong median correlation (r = -.61) provides evidence for substantial shared variance between these constructs because correlations of r > .5 are considered to reflect a large effect size (Cohen, 1992) or a moderate effect size using a more conservative approach (Ferguson, 2009). This review adopted the guidelines suggested by Cohen (1992).

4.1. Population differences

4.1.1. Developmental perspective

The median correlation was similar in children and adolescents (r = -.55; n = 5 correlations) and adults (r = -.62, n = 29 correlations). However, the larger variation in the size of the correlation observed in adults could be an artefact of the greater number of adult studies. Unfortunately, no studies investigated the relationship using a long-term follow-up design, so it is not possible to conclude if the relationship changes as a function of age.

4.1.2. Associations with other sociodemographic variables

Some studies found that females had higher self-criticism or lower self-esteem, while others reported an absence of gender differences. However, the evidence suggests that there may be a similar relationship between self-criticism and self-esteem in men and women because findings from gender-balanced and female-dominant samples provided comparable results.

It was not possible to assess the strength of the relationship across different ethnic groups as the studies typically reported on samples with predominantly Caucasian participants and did not report the association between self-criticism and self-esteem for different ethnicities. The studies from countries with non-Caucasian dominant populations were limited, heterogeneous, and represented findings from less economically developed countries, so further research is needed.

One study found similar correlations between self-criticism and self-esteem at baseline and ten weeks later in people with recent social loss (*r*s = -.66 and -.68) and without recent social loss (*r*s = -.61 and -.65) despite finding significantly greater self-criticism and low mood in the former group but equivalent levels of self-esteem in both groups (Overholser, 1992). Considering the detrimental effects of stress on both self-esteem and self-criticism (Schiller, et al., 2016), it appears that stress might be related to both variables to a similar degree, such that it does not affect the strength of their association.

4.1.3. Clinical and high-risk groups

The evidence from median correlations suggests that the association between self-criticism and self-esteem is stronger in people with a current mental health problem or those who were at high risk of experiencing one (*r*s = -.39 to -.86; median correlation *r*(11) = -.68) than for the general population (*r*s = -.11 to -.71; median correlation *r*(23) = -.56). However, firstly, there has been no statistical comparison of the association in clinical compared to non-clinical groups. Secondly, only two of the five studies in clinical groups included control groups (Iancu et al., 2015; Thew et al., 2017) and neither study reported correlations separately for clinical and control groups; only Iancu et al. (2015) indicated that the control group did not include participants with psychological disorders. Thirdly, the three high-risk studies involved participants with and without current psychological disorders. Finally, the studies in other samples such as school children and students did not consistently screen for presence of psychiatric problems. Therefore, the current evidence base cannot address whether potential differences exist in the strength of relationship between self-criticism and self-esteem between clinical and non-clinical groups.

There was evidence indicating that after the effects of depression (Fehon et al., 2000) and negative affect (Johnson, 2010) were controlled, the association between self-criticism and self-esteem decreased from r = -.66 and -.68 down to r =-.49 and -.36, respectively. This suggests that distress and mood may strengthen the relationship between a global negative self-view and self-criticism. A stronger association between self-criticism and self-esteem can be expected in people with psychological problems or high levels of psychological distress on the basis of Beck's (1976) cognitive model of emotional disorders. In this approach, core beliefs about oneself reflect a global negative self-evaluation akin to low self-esteem and when activated by stressors, are thought to result in 'negative automatic thoughts', including self-critical thoughts, which maintain distress and core belief activation. These findings are also consistent with the cognitive model of low self-esteem, where activation of global negative self-focused core beliefs result in

elevated self-criticism and psychological distress (including depression and anxiety) which then act to maintain core belief activation (Fennell, 1997).

4.2. Stability of the association between self-criticism and self-esteem

There were two naturalistic studies reporting similarly sized correlations between self-criticism and self-esteem between two or three time-points with high levels of retention at re-test (Overholser, 1992; Schiller et al., 2016). However, firm conclusions cannot be drawn as there was no statistical test for change in the strength of the correlations and there is no good evidence (i.e. from intraclass correlations) indicating adequate test-retest reliability for the measures used. The studies sampled university students in Israel and USA, presenting issues for generalisability. However, this limited cross-cultural evidence provides preliminary support for similar association between self-criticism and self-esteem over a one-year period.

4.3. Differences by measurement instrument

4.3.1. Measures of self-criticism

Sixteen studies, which includes all six studies in young people, used a DEQ measure to assess self-criticism; of these, two studies included other measures of self-criticism. It should be noted that there should be caution in drawing conclusions from these studies because the DEQ self-criticism subscale measures a much wider construct than self-criticism – introjective personality and the related symptoms of depression. Furthermore, several different scoring systems exist for calculating the 'self-criticism' score from the 66-item DEQ producing different total scores and correlations between the DEQ subscales (Desmet et al., 2007; Zuroff, Mongrain & Santor, 2004), precluding direct comparison across studies. Additionally, it means there is a lack of clarity regarding psychometric properties (Desmet et al., 2009; Falgares et al., 2018).

The LOSC aims to measure self-critical perfectionistic personality traits based upon the same theoretical background as the DEQ (Thompson & Zuroff, 2004) and was used by three studies with university students in USA and Iran. The internalised self-criticism (LOSC-ISC) subscale showed consistently small correlations with self-esteem (*r*s = -.12 to -.32), but correlations were twice as large for the comparative self-criticism (LOSC-CSC) subscale (*r*s = -.23 to -.65) in these studies. Internalised self-criticism involves perceived failure to meet personal standards and a subsequent sense of inadequacy and distress; whereas comparative self-criticism involves comparison to others, perceiving others as superior or critical, and subsequently evaluating the self as inferior. Other research has also found that upward social comparisons are associated

with lower self-esteem (Vogel, Rose, Roberts & Eck, 2014) although the causal direction of this relationship is unclear. The stronger correlations of LOSC-CSC with self-esteem highlights the importance of social and interpersonal influences over internal self-evaluative processes. Indeed, socially comparative self-criticism, as measured by the LOSC-CSC, is more likely to involve perceived social rejection, which in sociometer theory leads to the development of low self-esteem (Leary et al., 1995). It is also possible that high LOSC-ISC scores have small correlations with self-esteem because most of the items reflect affective responses to failure (*e.g. 'I get very irritable when I have failed'*) rather than self-critical thinking specifically.

Slightly stronger median correlations emerged between self-esteem and self-criticism where the measures used were specifically designed to assess self-critical tendencies or thinking, i.e. the FSCRS, SCRS, HINT, CDS self-criticism subscale and the SCCS (r = -.71, n=9 correlations), compared to where the measures used were of wider personality constructs, such as the DEQ self-criticism subscale and LOSC (r = -.57, n=24 correlations). Only Kolubinski et al. (2017) and Schiller et al. (2016) utilised multiple self-criticism measures; they also found slightly smaller correlations between self-esteem and the DEQ self-criticism personality measures (*r*s = -.49 and -.65) compared to the FSCRS or SCRS, measures of self-critical tendencies during times of difficulty and self-critical cognitive processes (*r*s = -.56 to -.79). Findings from the LOSC and DEQ suggest that, when self-criticism is measured as a broad perfectionistic depressogenic personality trait, there is a weaker association with self-esteem.

One study developed a new measure of self-criticism (Ishiyama & Munson, 1993), the SCCS. As no other measures of self-critical cognitive processes existed at the time, the SCCS could not be validated with other measures of self-criticism; no further validation studies were conducted. Since then, several new measures of self-criticism (such as the FSCRS) and self-critical cognitive processes (such as the SCRS and HINT) have been developed. The limited research indicates a strong association (*r*s = to -.71 to -.86; n = 4 correlations) between low self-esteem and more severe self-critical cognitive processes including frequent, longer-lasting, uncontrollable, and habitual self-criticism. According to Fennell's (1997) cognitive-behavioural model of low self-esteem, self-critical thinking is considered to maintain activation of the negative self-view (Fennell, 1997). Therefore, self-criticism that is more frequent and of longer duration would be expected to have a strong relationship with self-esteem.

4.3.2. Measures of self-esteem

One questionnaire also dominated the measurement of low self-esteem. The RSES was used in all but two studies. Originally designed for high school students, several validation studies have justified its usage in adolescents and adults (Bagley & Mallick, 2001; Schmitt & Allik, 2005), however no validation studies were found for children. The theoretical framework of the scale is vague and there is ongoing debate about the factor structure of the scale; therefore, researchers are highlighting the need for new measures with stronger psychometric properties (Blascovich & Tomaka, 1991; Butler & Gasson, 2005).

A strong correlation with self-criticism was reported using BSES (Johnson, 2010), which is the only self-esteem measure to exclude cognitive evaluative components, and also by the 21 studies using the RSES, r = -.68 and *r*(27) = -.56, respectively. This is a potentially important finding given the theoretical overlap between the cognitive components of self-esteem and self-criticism, both of which are focused on aspects of negative self-evaluation. However, items in the BSES (see Table 2b for examples) assess a wide range of constructs such as mood (e.g. *'I'm rather happy'*), sexual-intercourse specific (e.g. *'I'm afraid of sex'*), and even the theoretically excluded cognitive experiences (e.g. *'I sometimes worry about being shy'*), instead of solely assessing self-esteem. Although further research using different instruments is required, the strong correlations between self-criticism and self-esteem demonstrated by conceptually varied measurement tools provides another indication for the robustness of that inverse relationship.

The only idiographic measure of self-esteem, the SE-WS (Overholser, 1993) was found to have small correlations with self-criticism, unlike the other self-esteem questionnaires used in their study. It is not surprising that a measure of specific aspects of the self that one values has a smaller correlation with general self-criticism measures than found using global self-esteem scales; one might expect specific self-critical thoughts to be more strongly associated with the particular aspects of the self that were assessed in the idiographic measure. The psychometric properties of the idiographic measure are questionable and the measure did not receive a strong quality rating, limiting the conclusions that can be drawn.

4.4. Quality assessment findings of the included studies

Interestingly, the study with the weakest correlation (r = -.11) also had the highest quality ratings. Future research is needed with high quality studies to investigate whether this smaller association is replicated. However, findings might also be specific to the type of study population as they only assessed Turkish students studying teaching. There were also methodological

differences, as it included a newly-translated measure of self-criticism that was not used by any other studies, the CDS, for which the translation paper was not available. There was no evidence of any systematic relationship between quality and size of correlation.

4.5. Quality, strengths and limitations of included articles

Studies were only included if they used validated measures to assess self-criticism and self-esteem. However, some studies included unvalidated abbreviations of measures and the specificity of measures varied; most notably, the widely used DEQ self-criticism subscale aims to measure a self-critical perfectionistic vulnerability to depression. The majority of the research was not conducted with participants representative of their population in terms of gender or ethnicity, and often minimal information was provided on sociodemographic variables. The studies were not of a very high quality and were biased towards samples of young, well-educated females (often comprising of university students), limiting the generalisability of conclusions that can be drawn, even for the general adult population. Since elevated self-criticism at age 12 has been found to predict fewer years in education (Koestner & Powers, 1994), it is possible that very self-critical people may have been under-represented at university. The statistical analyses were often not fully mentioned, for example the type of correlations was not specified; one study did not report the *p* value of the correlation (Adams et al., 2007), and studies with multiple groups only presented a single correlation, precluding differentiation of the strength of the relationship between groups.

4.6. Strengths and limitations of this review

This study is the first to systematically review the relationship between self-criticism and self-esteem. The thorough search strategy should allow for replication of results and the quality of all included studies was independently evaluated by two researchers. There are also a number of limitations within the methodology of this review. Additional manual searches and scanning of reference lists were not conducted so it is possible that some relevant papers were missed. Grey literature was not searched and only papers in peer reviewed journals were included, so the reported results may be inflated by publication bias, which was not formally assessed. The quality assessment tool chosen had to be adapted, whereas a tool with more domains relevant to the evaluation of associations would facilitate a more thorough assessment and may have provided finer stratification of studies by quality. The included studies were often heterogenous in terms of their sample, limiting the conclusions that can be drawn for specific populations like psychiatric patients or older adults.

4.7. Future research and recommendations

The review identified a shortage of studies in children and clinical populations regarding the association between self-esteem and self-criticism. Several studies reported very limited sociodemographic information about participants and most of the research was of weak quality. This highlights a need for higher quality research that investigates a representative sample, assesses and then controls for sociodemographic confounders, and reports zero-order correlations as well as partial correlations. It is recommended that future clinical studies report separate correlations for their clinical and non-clinical groups. Measures specifically designed to measure self-criticism, such as the FSCRS and HINT are recommended instead of the DEQ unless the researcher wishes to investigate self-critical perfectionism as a personality trait.

No longitudinal study has been undertaken that could help inform any potential direction of causality between high self-criticism and low self-esteem. Studies investigating any changes in the relationship between self-criticism and self-esteem with age, using long-term longitudinal studies, would also clarify the nature of this relationship through the lifespan. Furthermore, given the theoretical overlap between self-criticism and self-esteem and the constructs to which they are closely related (for example distress, stress, cognitive biases, rumination, and self-compassion), it appears important to investigate the direction of these relationships using prospective and experimental designs. Research could also investigate the moderators and mediators for these relationships. Such research offers the potential for clinical and public health benefits as it would help inform treatments to reduce the self-criticism and enhance self-esteem, lowering the transdiagnostic risks they may convey for psychiatric, educational and occupational outcomes.

4.8. Conclusions

This review of existing literature provides consistent evidence for an inverse relationship between self-criticism and self-esteem. Considering the weak quality of the evidence, the strong median correlations reflect a relationship that is liklely to be at least moderate in size. The strength of the relationship may decrease with improvements in methodological quality; the choice of measurement tool and heterogeneity within the sample are also likely to impact the association. Due to a small selection of studies in clinical samples and young people, only tentative conclusions can be drawn about the strength of this relationship in population sub-groups. However, there was some evidence for a similar moderate relationship in young people

and adults, suggesting that the relationship does not change by age. There was little evidence of differences in the association by gender and insufficient data regarding ethnic differences or differences between clinical and non-clinical groups. However, as expected, low mood was found to strengthen the relationship between self-criticism and self-esteem. Future research could investigate potential differences in the strength of the relationship in clinical and non-clinical populations, assess changes to the relationship following interventions targeting self-criticism and/or self-esteem in both clinical and non-clinical groups, and also explore whether the relationship is altered by theoretically relevant variables such as rumination, and self-compassion.

5. References

Abela, J. R., Fishman, M. B., Cohen, J. R., & Young, J. F. (2012). Personality predispositions to depression in children of affectively-ill parents: The buffering role of self-esteem. *Journal of Clinical Child & Adolescent Psychology, 41*(4), 391-401.

Abela, J. R., & Taylor, G. (2003). Specific vulnerability to depressive mood reactions in schoolchildren: The moderating role of self-esteem. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 408-418.

Abela, J. R. Z., & Taxel, E. (2001). Vulnerability to specific life events: Personality predispositions to depression in schoolchildren. Paper presentation at a meeting of the *Canadian Psychological Association*, Quebec City, Canada.

Abela, J. R., Webb, C. A., Wagner, C., Ho, M. H. R., & Adams, P. (2006). The role of self-criticism, dependency, and hassles in the course of depressive illness: A multiwave longitudinal study. *Personality and Social Psychology Bulletin, 32*(3), 328-338.

Adams, P., Abela, J. R., & Hankin, B. L. (2007). Factorial categorization of depression-related constructs in early adolescents. *Journal of Cognitive Psychotherapy, 21*(2), 123-139.

Ashby, J. S., & Rice, K. G. (2002). Perfectionism, dysfunctional attitudes, and self-esteem: A structural equations analysis. *Journal of Counseling & Development, 80*(2), 197-203.

Augestad, L. B. (2017). Self-concept and self-esteem among children and young adults with visual impairment: A systematic review. *Cogent Psychology, 4*(1), 1319652. doi: 10.1080/23311908.2017.1319652

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.

Beck, J. (1995). *Cognitive therapy: Basics and beyond*. New York, NY: Guilford Press.

Beck, A.T., Emery, G., & Greenberg, R.L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York, NY: Basic Books.

Beck, A.T., Rush, A.J., Shaw, B.E. & Emery, G. (1979). *Cognitive therapy of depression*. New York, NY: Guilford Press.

Bagley, C., & Mallick, K. (2001). Normative data and mental health construct validity for the Rosenberg Self-Esteem Scale in British adolescents. *International Journal of Adolescence and Youth, 9*(2-3), 117-126.

Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J.P. Robinson, P.R. Shaver & L.S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes – volume 1* (pp. 115-160). New York, NY: Academic Press, Inc.

Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. The *Psychoanalytic Study of the Child, 29(*1), 107-157.

Blatt, S. J. (2004). *Experiences of depression: Theoretical, clinical, and research perspectives*. Washington, D.C.: American Psychological Association.

Blatt, S. J., D'Afflitti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal psychology, 85*(4), 383-389.

Blatt, S. J., Quinlan, D. M., Chevron, E. S., McDonald, C., & Zuroff, D. (1982). Dependency and self-criticism: psychological dimensions of depression. *Journal of Consulting and Clinical Psychology, 50*(1), 113-124.

Blatt, S. J., Schaffer, C. E., Bers, S. A., & Quinlan, D. M. (1990). *Adolescent Depressive Experiences Questionnaire – unpublished research manual*. New Haven, CT: Yale University.

Blatt, S. J., Schaffer, C. E., Bers, S. A., & Quinlan, D. M. (1992). Psychometric properties of the depressive experiences questionnaire for adolescents. *Journal of Personality Assessment, 59*, 82-98.

Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review, 12*(5), 527-562.

Bleidorn, W., Arslan, R. C., Denissen, J. J., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Age and gender differences in self-esteem – A cross-cultural window. *Journal of Personality and Social Psychology, 111*(3), 396-410.

Brewin, C. B., & Firth-Cozens, J. (1997). Dependency and self-criticism as predictors of depression in young doctors. *Journal of Occupational Health Psychology, 2*(3), 242-246.

Briere, J. (2000). *Cognitive Distortion Scales – professional manual*. Lutz, FL: Psychological Assessment Resources Inc.

Buhrmester, M. D., Blanton, H., & Swann Jr, W. B. (2011). Implicit self-esteem: Nature, measurement, and a new way forward. *Journal of personality and social psychology*, *100*(2), 365.

Butler, R. J., & Gasson, S. L. (2005). Self esteem/self concept scales for children and adolescents: A review. *Child and Adolescent Mental Health, 10*(4), 190-201.

Carver, C. S. (1998). Generalization, adverse events, and development of depressive symptoms. *Journal of Personality, 66*(4), 607-619.

Carver, C. S., & Ganellen, R. J. (1983). Depression and components of self-punitiveness: High standards, self-criticism, and overgeneralization. *Journal of Abnormal Psychology, 92*(3), 330-337.

Cervera, S., Lahortiga, F., Angel Martínez-González, M., Gual, P., Irala-Estévez, J. D., & Alonso, Y. (2003). Neuroticism and low self-esteem as risk factors for incident eating disorders in a prospective cohort study. *International Journal of Eating Disorders, 33*(3), 271-280.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

Cristea, I. A., Tatar, A. S., & Lucacel, R. (2014). Differential Effects of Self-Statements Following a Self-Esteem Threatening Situation. *Journal of Evidence-Based Psychotherapies, 14*(1), 39-52.

Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin, 130*(3), 392-414.

Davis, C., Kellett, S., & Beail, N. (2009). Utility of the Rosenberg self-esteem scale. *American Journal on Intellectual and Developmental Disabilities, 114*(3), 172-178.

Deeks, J.J., Dinnes, J., D'amico, R., Sowden, A.J., Sakarovitch, C., Song, F., Petticrew, M. & Altman, D.G. (2003). Evaluating non-randomised intervention studies. *Health Technology Assessment, 7*(27), 1-186. ISSN: 1366-5278

Desmet, M., Verhaeghe, P., Van Hoorde, H., Meganck, R., Vanheule, S., & Murphy, C. (2009). The Depressive Experiences Questionnaire as a measure of psychoanalytic constructs reported to be measured. *Psychological Reports, 105*(3), 714-720.

Desmet, M., Vanheule, S., Groenvynck, H., Verhaeghe, P., Vogel, J., & Bogaerts, S. (2007). The depressive experiences questionnaire. *European Journal of Psychological Assessment, 23*(2), 89-98.

Donnellan, M. B., Ackerman, R. A., & Brecheen, C. (2016). Extending structural analyses of the Rosenberg self-esteem scale to consider criterion-related validity: can composite self-esteem scores be good enough?. *Journal of Personality Assessment, 98*(2), 169-177.

Dunkley, D. M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, hassles, and current distress: A structural equation modeling approach. *Cognitive Therapy and Research, 24*(6), 713-730.

Dunkley, D. M., & Grilo, C. M. (2007). Self-criticism, low self-esteem, depressive symptoms, and over-evaluation of shape and weight in binge eating disorder patients. *Behaviour Research and Therapy, 45*(1), 139-149.

Effective Public Health Practice Project. (1998a). Quality Assessment Tool For Quantitative Studies. Hamilton, ON: Effective Public Health Practice Project. Retrieved from https://merst.ca/wp-content/uploads/2018/02/quality-assessment-tool_2010.pdf

Effective Public Health Practice Project. (1998b). Dictionary for the Effective Public Health Practice Project Quality Assessment Tool For Quantitative Studies. Retrieved from https://merst.ca/wp-content/uploads/2018/02/qualilty-assessment-dictionary_2017.pdf

Falgares, G., De Santis, S., Gullo, S., Kopala-Sibley, D. C., Scrima, F., & Livi, S. (2018). Psychometric aspects of the Depressive Experiences Questionnaire: implications for clinical assessment and research. *Journal of Personality Assessment*, *100*(2), 207-218.

Fehon, D. C., Grilo, C. M., & Martino, S. (2000). A comparison of dependent and self-critically depressed hospitalized adolescents. *Journal of Youth and Adolescence, 29*(1), 93-106.

Fennell, M.J. (1997). Low self-esteem: A cognitive perspective. *Behavioural and Cognitive Psychotherapy, 25*, 1-26.

Ferguson, C. J. (2009). An effect size primer: a guide for clinicians and researchers. *Professional Psychology: Research and Practice, 40*(5), 532-538.

Fichman, L., Koestner, R., & Zuroff, D. C. (1996). Dependency, self-criticism, and perceptions of inferiority at summer camp: I'm even worse than you think. *Journal of Youth and Adolescence, 25*(1), 113-126.

Forrester, R. L., Slater, H., Jomar, K., Mitzman, S., & Taylor, P. J. (2017). Self-esteem and non-suicidal self-injury in adulthood: A systematic review. *Journal of Affective Disorders, 221*, 172-183.

Forsman, L., & Johnson, M. (1996). Dimensionality and validity of two scales measuring different aspects of self-esteem. *Scandinavian Journal of Psychology, 37(1*), 1-15.

Franck, E., & De Raedt, R. (2007). Self-esteem reconsidered: Unstable self-esteem outperforms level of self-esteem as vulnerability marker for depression. *Behaviour Research and Therapy, 45*(7), 1531-1541.

Ghorbani, N., Watson, P. J., Tahbaz, S., & Chen, Z. J. (2017). Religious and psychological implications of positive and negative religious coping in Iran. *Journal of Religion and Health, 56*(2), 477-492.

Gilbert, P. (2010). An introduction to compassion focused therapy in cognitive behavior therapy. International *Journal of Cognitive Therapy, 3*(2), 97-112.

Gilbert, P. (2013). *The Compassionate Mind*. London, UK: Robinson.

Gilbert, P., Clarke, M., Hempel, S., Miles, J. N., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology, 43*(1), 31-50.

Gilbert, P., & Irons, C. (2004). A pilot exploration of the use of compassionate images in a group of self-critical people. *Memory, 12*(4), 507-516.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology & Psychotherapy, 13*(6), 353-379.

Glassman, L. H., Weierich, M. R., Hooley, J. M., Deliberto, T. L., & Nock, M. K. (2007). Child maltreatment, non-suicidal self-injury, and the mediating role of self-criticism. *Behaviour Research and Therapy, 45*(10), 2483-2490.

Grzegorek, J. L., Slaney, R. B., Franze, S., & Rice, K. G. (2004). Self-criticism, dependency, self-esteem, and Grade Point Average satisfaction among clusters of perfectionists and non-perfectionists. *Journal of Counseling Psychology, 51*(2), 192-200.

Harris, M. A., Wetzel, E., Robins, R. W., Donnellan, M. B., & Trzesniewski, K. H. (2018). The development of global and domain self-esteem from ages 10 to 16 for Mexican-origin youth. *International Journal of Behavioral Development, 42*(1), 4-16.

Harter, S. (1982). The perceived competence scale for children. *Child Development, 52*(1), 87-97.

Harter, S. (1985). *Manual for the self-perception profile for children: Revision of the perceived competence scale for children*. Denver, CO: University of Denver.

Heimpel, S. A., Wood, J. V., Marshall, M. A., & Brown, J. D. (2002). Do people with low self-esteem really want to feel better? Self-esteem differences in motivation to repair negative moods. *Journal of Personality and Social Psychology, 82*(1), 128-147.

Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the Implicit Association Test and explicit self-report measures. *Personality and Social Psychology Bulletin*, *31*(10), 1369-1385.

Hooper, V. R., Chou, S., & Browne, K. D. (2016). A systematic review on the relationship between self-esteem and interrogative suggestibility. *The Journal of Forensic Psychiatry & Psychology, 27*(6), 761-785.

Huang, C., & Dong, N. (2012). Factor structures of the Rosenberg self-esteem scale. *European Journal of Psychological Assessment, 28,* 132-138.

Iancu, I., Bodner, E., & Ben-Zion, I. Z. (2015). Self esteem, dependency, self-efficacy and self-criticism in social anxiety disorder. *Comprehensive Psychiatry, 58*, 165-171.

Ingram, R. E. (1990). Self-focused attention in clinical disorders: Review and a conceptual model. *Psychological Bulletin, 107*(2), 156-176.

Ishiyama, F. I., & Munson, P. A. (1993). Development and validation of a self-critical cognition scale. *Psychological Reports, 72*(1), 147-154.

Jackson, N., & Waters, E. (2005). Criteria for the systematic review of health promotion and public health interventions. *Health Promotion International, 20*(4), 367-374.

Johnson, M. (2010). Depressive Styles, Self-Esteem Structure, and Health: A Dynamic Approach to Differential Vulnerability in Self-Criticism and Dependency. *Individual Differences Research, 8*(1) 45-66.

Johnson, M. (2014). Dimensionality of the Basic and Earning Self-Esteem Scales: The importance of theoretical basis and item selection: A Letter to the Editor regarding Dåderman and Basinska (2013). *Nordic Psychology, 66*(3), 230-232.

Johnson, M., & Blom, V. (2007). Development and Validation of Two Measures of Contingent Self-Esteem. *Individual Differences Research, 5*(4), 300-328.

Jones, C., Leung, N., & Harris, G. (2007). Dysfunctional core beliefs in eating disorders: A review. *Journal of Cognitive Psychotherapy, 21*(2), 156-171.

Kannan, D., & Levitt, H. M. (2013). A review of client self-criticism in psychotherapy. *Journal of Psychotherapy Integration, 23*(2), 166-178.

Katz, J., & Nelson, R. A. (2007). Family experiences and self-criticism in college students: Testing a model of family stress, past unfairness, and self-esteem. *The American Journal of Family Therapy, 35*(5), 447-457.

Keane, L., & Loades, M. (2017). Low self-esteem and internalizing disorders in young people–a systematic review. *Child and Adolescent Mental Health, 22*(1), 4-15.

Kelly, A. C., & Carter, J. C. (2013). Why self-critical patients present with more severe eating disorder pathology: The mediating role of shame. *British Journal of Clinical Psychology, 52*(2), 148-161.

Kelly, A. C., Vimalakanthan, K., & Carter, J. C. (2014). Understanding the roles of self-esteem, self-compassion, and fear of self-compassion in eating disorder pathology: An examination of female students and eating disorder patients. *Eating Behaviors, 15*(3), 388-391.

Kernis, M. H. (2005). Measuring self-esteem in context: The importance of stability of self-esteem in psychological functioning. *Journal of Personality, 73*(6), 1569-1605.

Kernis, M. H., Brockner, J., & Frankel, B. S. (1989). Self-esteem and reactions to failure: The mediating role of overgeneralization. *Journal of Personality and Social Psychology, 57*(4), 707.

Kling, K. C., Hyde, J. S., Showers, C. J., & Buswell, B. N. (1999). Gender differences in self-esteem: a meta-analysis. *Psychological Bulletin, 125*(4), 470-500.

Koestner, R., Zuroff, D. C., & Powers, T. A. (1991). Family origins of adolescent self-criticism and its continuity into adulthood. *Journal of Abnormal Psychology, 100*(2), 191-197.

Kolubinski, D. C., Nikčević, A. V., Lawrence, J. A., & Spada, M. M. (2017). The metacognitions about self-critical rumination questionnaire. *Journal of Affective Disorders, 220*, 129-138.

Kopala-Sibley, D. C., Klein, D. N., Perlman, G., & Kotov, R. (2017). Self-criticism and dependency in female adolescents: Prediction of first onsets and disentangling the relationships between

personality, stressful life events, and internalizing psychopathology. *Journal of Abnormal Psychology, 126*(8), 1029-1043.

Kopala-Sibley, D. C., Zuroff, D. C., Hankin, B. L., & Abela, J. R. (2015). The development of self-criticism and dependency in early adolescence and their role in the development of depressive and anxiety symptoms. *Personality and Social Psychology Bulletin, 41*(8), 1094-1109.

Kuster, F., Orth, U., & Meier, L. L. (2012). Rumination mediates the prospective effect of low self-esteem on depression: A five-wave longitudinal study. *Personality and Social Psychology Bulletin, 38*(6), 747-759.

Laithwaite, H., O'Hanlon, M., Collins, P., Doyle, P., Abraham, L., Porter, S., & Gumley, A. (2009). Recovery after psychosis (RAP): A compassion focused programme for individuals residing in high security settings. *Behavioural and Cognitive Psychotherapy, 37*(5), 511-526.

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. *Advances in Experimental Social Psychology, 32*. doi: 10.1016/S0065-2601(00)80003-9

Leary, M. R., Schreindorfer, L. S., & Haupt, A. L. (1995). The role of low self-esteem in emotional and behavioral problems: Why is low self-esteem dysfunctional*? Journal of Social and Clinical Psychology, 14*(3), 297-314.

Luck, P. & Heiss, J. (1972). Social determinants of self-esteem in adult males. *Sociology and Social Research, 57*, 69-84.

Mann, M. M., Hosman, C. M., Schaalma, H. P., & De Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health Education Research, 19*(4), 357-372.

Marsh, H. W. (1996). Positive and negative global self-esteem: A substantively meaningful distinction or artifactors? *Journal of Personality and Social Psychology, 70*(4), 810-819.

McIntyre, R., Smith, P., & Rimes, K. A. (2018). The role of self-criticism in common mental health difficulties in students: A systematic review of prospective studies. *Mental Health & Prevention, 10*, 13-27.

McKay, M. T., Boduszek, D., & Harvey, S. A. (2014). The Rosenberg Self-Esteem Scale: A bifactor answer to a two-factor question? *Journal of Personality Assessment, 96*(6), 654-660.

Moretti, M. M., & Higgins, E. T. (1990). Relating self-discrepancy to self-esteem: The contribution of discrepancy beyond actual-self ratings. *Journal of Experimental Social Psychology, 26*(2), 108-123.

Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007a). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*(1), 139-154.

Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007b). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality, 41*(4), 908-916.

Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77*(1), 23-50.

Orth, U. (2017a). The lifespan development of self-esteem. In J. Specht (Ed.), *Personality development across the lifespan* (pp. 181-195). London, UK: Elsevier. doi: 10.1016/B978-0-12-804674-6.00012-0

Oshri, A., Carlson, M. W., Kwon, J. A., Zeichner, A., & Wickrama, K. K. (2017). Developmental growth trajectories of self-esteem in adolescence: associations with child neglect and drug use and abuse in young adulthood. *Journal of Youth and Adolescence, 46*(1), 151-164.

Overholser, J. C. (1992). Interpersonal dependency and social loss. *Personality and Individual Differences, 13*(1), 17-23.

Overholser, J. C. (1993). Idiographic, quantitative assessment of self-esteem. *Personality and Individual Differences, 14*(5), 639-646.

Peter, D., & Gazelle, H. (2017). Anxious Solitude and Self-Compassion and Self-Criticism Trajectories in Early Adolescence: Attachment Security as a Moderator. *Child Development, 88*(6), 1834-1848.

Randal, C., Pratt, D., & Bucci, S. (2015). Mindfulness and self-esteem: A systematic review. *Mindfulness, 6*(6), 1366-1378.

Roberts, J. E., Gotlib, I. H., & Kassel, J. D. (1996). Adult attachment security and symptoms of depression: The mediating roles of dysfunctional attitudes and low self-esteem. *Journal of Personality and Social Psychology, 70*(2), 310-320.

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and social psychology bulletin, 27*(2), 151-161.

Rose, A. V., & Rimes, K. A. (2018). Self-criticism self-report measures: Systematic review. *Psychology and Psychotherapy: Theory, Research and Practice*. doi: 10.1111/papt.12171.

Rose, A., McIntyre, R., & Rimes, K. A. (2018). Compassion-Focused Intervention for Highly Self-Critical Individuals: Pilot Study. *Behavioural and Cognitive Psychotherapy, 46*(5), 583-600.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979, 1986a). *Conceiving the self*. New York, NY: Basic Books.

Rosenberg, M. (1986b). Self-concept from middle childhood through adolescence. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self – volume 2*. Hillsdale, NJ: Erlbaum.

Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American Sociological Review, 60*(1), 141-156.

Rudich, Z., Lerman, S. F., Gurevich, B., Weksler, N., & Shahar, G. (2008). Patients' self-criticism is a stronger predictor of physician's evaluation of prognosis than pain diagnosis or severity in chronic pain patients. *The Journal of Pain, 9*(3), 210-216.

Sanderson, S., Tatt, I. D., & Higgins, J. (2007). Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. *International Journal of Epidemiology, 36*(3), 666-676.

Sarason, I., Johnson, J. & Siegel, J. (1978). Assessing the impact of life changes: development of the Life Experiences Survey. *Journal of Consulting and Clinical Psychology, 46,* 932-946.

Schiller, M., Hammen, C. C., & Shahar, G. (2016). Links among the self, stress, and psychological distress during emerging adulthood: Comparing three theoretical models. *Self and Identity, 15*(3), 302-326.

Schiller, M., & Shahar, G. (2013). Self-esteem instability moderates psychopathological scarring: Support for a malleable self hypothesis. *International Journal of Cognitive Therapy, 6*(1), 17-23.

Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89*(4), 623-642.

Sergeant, S., & Mongrain, M. (2011). Are positive psychology exercises helpful for people with depressive personality styles?. *The Journal of Positive Psychology, 6*(4), 260-272.

Shahar, G. (2015). *Erosion: The psychopathology of self-criticism*. New York: Oxford University Press.

Shahar, G. (2016). Criticism in the Self, Brain, Relationships, and Social Structure: Implications for Psychodynamic Psychiatry. *Psychodynamic Psychiatry, 44*(3), 395-421.

Shahar, G., Blatt, S. J., Zuroff, D. C., Kuperminc, G. P., & Leadbeater, B. J. (2004). Reciprocal relations between depressive symptoms and self-criticism (but not dependency) among early adolescent girls (but not boys). *Cognitive Therapy and Research, 28*(1), 85-103.

Shahar, G., & Davidson, L. (2003). Depressive symptoms erode self-esteem in severe mental illness: A three-wave, cross-lagged study. *Journal of Consulting and Clinical Psychology, 71*(5), 890.

Shahar, G., & Henrich, C. C. (2010). Do depressive symptoms erode self-esteem in early adolescence?. *Self and Identity*, 9(4), 403-415.

Shahar, B., Carlin, E. R., Engle, D. E., Hegde, J., Szepsenwol, O., & Arkowitz, H. (2012). A pilot investigation of emotion-focused two-chair dialogue intervention for self-criticism. *Clinical Psychology & Psychotherapy, 19*(6), 496-507.

Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E., Bistis, K., & LoCicero, A. (2010). Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. *Evaluation & the Health Professions, 33*(1), 56-80.

Smart, L. M., Peters, J. R., & Baer, R. A. (2016). Development and validation of a measure of self-critical rumination. *Assessment, 23*(3), 321-332.

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin, 139*(1), 213-340.

Starrs C.J., Dunkley D.M., Moroz M. (2015) Self-Criticism and Low Self-Esteem. In T. Wade (Ed.), *Encyclopedia of Feeding and Eating Disorders*. Singapore: Springer.

Stolow, D., Zuroff, D. C., Young, J. F., Karlin, R. A., & Abela, J. R. (2016). A prospective examination of self-compassion as a predictor of depressive symptoms in children and adolescents. *Journal of Social and Clinical Psychology, 35*(1), 1-20.

Supple, A. J., Su, J., Plunkett, S. W., Peterson, G. W., & Bush, K. R. (2013). Factor structure of the Rosenberg self-esteem scale. *Journal of Cross-Cultural Psychology, 44*(5), 748-764.

Tafarodi, R. W., & Milne, A. B. (2002). Decomposing global self-esteem. *Journal of Personality, 70*(4), 443-484.

Tai, S., & Turkington, D. (2009). The evolution of cognitive behavior therapy for schizophrenia: current practice and recent developments. *Schizophrenia Bulletin, 35*(5), 865-873.

Thew, G. R., Gregory, J. D., Roberts, K., & Rimes, K. A. (2017). The phenomenology of self-critical thinking in people with depression, eating disorders, and in healthy individuals. *Psychology and Psychotherapy: Theory, Research and Practice, 90*(4), 751-769.

Thompson, R., & Zuroff, D. C. (2004). The Levels of Self-Criticism Scale: comparative self-criticism and internalized self-criticism. *Personality and Individual Differences, 36*(2), 419-430.

Trumpeter, N., Watson, P. J., & O'Leary, B. J. (2006). Factors within multidimensional perfectionism scales: Complexity of relationships with self-esteem, narcissism, self-control, and self-criticism. *Personality and Individual Differences, 41*(5), 849-860.

Trzesniewski, K. H., Donnellan, M. B., & Robins, R. W. (2003). Stability of self-esteem across the life span. *Journal of Personality and Social Psychology, 84,* 205-220.

Verplanken, B., Friborg, O., Wang, C. E., Trafimow, D., & Woolf, K. (2007). Mental habits: metacognitive reflection on negative self-thinking. *Journal of Personality and Social Psychology, 92*, 526–541.

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture, 3*(4), 206-222.

Watkins, D. (1978). The development and evaluation of self-esteem measuring instruments. *Journal of Personality Assessment, 42,* 171-182.

Whelton, W. J., & Greenberg, L. S. (2005). Emotion in self-criticism. *Personality and Individual Differences, 38(*7), 1583-1595.

Yavuzer, Y. (2015). Investigating the relationship between self-handicapping tendencies, self-esteem and cognitive distortions. *Educational Sciences: Theory and Practice,* 15(4), 879-890.

Yu, M., McElory, J. A., Bullock, L. F., & Everett, K. D. (2011). Unique perspectives of women and their partners using the Prenatal Psychosocial Profile Scale. *Journal of Advanced Nursing, 67*(8), 1767-1778.

Zeigler-Hill, V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy, 41*(3), 157-164.

Zuckerman, M., Li, C., & Hall, J. A. (2016). When men and women differ in self-esteem and when they don't: A meta-analysis. *Journal of Research in Personality, 64*, 34-51.

Zuroff, D. C., Koestner, R., & Powers, T. A. (1994). Self-criticism at age 12: A longitudinal study of adjustment. *Cognitive Therapy and Research, 18*(4), 367-385.

Zuroff, D. C., Igreja, I., & Mongrain, M. (1990). Dysfunctional attitudes, dependency, and self-criticism as predictors of depressive mood states: A 12-month longitudinal study. *Cognitive Therapy and Research, 14*(3), 315-326.

Zuroff, D. C., Mongrain, M., & Santor, D. A. (2004). Conceptualizing and measuring personality vulnerability to depression: comment on Coyne and Whiffen (1995). *Psychological Bulletin, 130*(3), 489-511